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China Report

AGRICULTURE

No. 89

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I. GENERAL INFORMATION

AERIAL AFFORESTATION METHODS, EXTENT DISCUSSED

Guangzhou NANFANG RIBAO in Chinese 10 Apr 80 p 3

[Article by Zhao Jiwen [6392 7139 2429]: "Afforestation by Aircraft"]

[Text] Afforestation by aircraft is an afforestation method that employs specially equipped aircraft to sow seeds in imitation of the natural process whereby forests are renewed. Before the aircraft begins sowing, a suitable area of operation must be selected, where there is a large amount of weed and bramble overgrowth, there must be a "clearing of the mountain" so that the tree seeds will fall to the soil.

An AN-5 aircraft can load between 1,800 to 2,000 jin of tree seeds each trip and fly at a speed of 170 kilometers per hour at a distance above the earth's surface of 80 to 100 meters, shuttling back and forth to spread a strip about 50 meters wide with each pass. For each mu, approximately 0.2 jin of tree seeds are sown for an average of about 15 seeds per square meter.

Aerial afforestation is characterized by high speed, high efficiency, conservation of labor, and low costs. Generally speaking, an IL-14 aircraft can sow between 60,000 and 70,000 mu of seeds for each day of flight, the equivalent of between 6000 and 7000 man days of labor. An AN-5 aircraft can sow between 20,000 and 30,000 mu per flight day, the equivalent of between 2000 and 3000 man days of labor. Cost of aerial afforestation are about one to two yuan per mu. Apart from the cost of the seeds, operation expenses amount to only a few cents.

Aerial afforestation is an important way of hastening the afforestation of the land at the present time. Use of aircraft for afforestation has been going on in foreign countries for 40 or 50 years, principally in the United States, the Soviet Union, Canada, Japan, and Australia. Since the decade of the 1960's, aerial afforestation in these countries has seen great development. In the case of Canada, for example, aerial afforestation now amounts to 48 percent of the total area that is directly seeded. In Ontario province, during the 10 years since aerial afforestation was first begun in 1962, the area seeded by air increased 11 fold.

Our country has been using aerial afforestation for more than 20 years, flying more than 37,000 hours over 22 provinces and municipalities (or regions) to afforest an area of more than 160 million mu. Now 47 million mu have closed into forests, and 22 million mu have grown to full size.

As the campaign to plant trees to create forests and beautify our motherland vigorously develops, our afforestation by aircraft has taken a leap into a new era and is now advancing toward the planting of mixed forests of coniferous and deciduous trees.

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'RENMIN RIBAO' CITES HU YAOBANG LETTER ON DEVELOPING FORESTRY

HK130849 Beijing RENMIN RIBAO in Chinese 8 Jun 80 p 2

[Report: "Developing Forestry Is the Principal Way for People of Mountainous Areas To Turn Poverty Into Prosperity--ZHONGHUO LINYE Publishes Letter From Comrade Hu Yaobang to the Yi Country Party Committee and Report of the Committee on the Development of Forestry"]

[Text] ZHONGGUO LINYE No 6 of 1980 published the 17 April 1979 letter from Comrade Hu Yaobang to the party committee of Yi County, Hebei. It also published the report of the Yi County CCP Committee on the situation of forestry development in the country. In spring last year, a comrade of the Yi County CCP Committee wrote a letter to Comrade Hu Yaobang reporting on the work in the county. Comrade Hu Yaobang, in his reply, asked cadres in the whole county to heighten their party spirit, improve their work style and grasp forestry production well in a down to earth manner in accordance with the special condition in Yi County which has many barren mountains and hills. In accordance with Comrade Hu Yaobang's suggestion and taking into consideration the actual conditions in the country, the Yi County CCP Committee implemented party policies, adjusted production policies and gained new achievements in forestry production. In April this year, they submitted a report to Comrade Hu Yaobang.

Comrade Hu Yaobang Asked the County CCP Committee To Devote Efforts To Study the Problem of Afforestation

Comrade Hu Yaobang said in his letter to the Yi Country CCP Committee: "I hope you will mobilize the cadres in the whole county to arouse the people of the country to devise all possible ways to achieve a bumper harvest in agriculture this year.

To this end, we must seriously demand that cadres in the whole county heighten their party spirit and improve their work style. We must particularly demand that cadres refrain from factionalism and disunity; refrain from resorting to playing tricks and putting on outward appearances; refrain from coveting luxuries and seeking special privileges and refrain from having a

bureaucratic attitude and issuing arbitrary orders. We always believe that if cadres are good, production definitely cannot be bad.

Yi County has many barren hills and slopes. I hope you will devote efforts to studying the issue of farmland capital construction. For years, some comrades thought that farmland capital construction was nothing but the construction of water conservancy works and the production of chemical fertilizers and tractors. Of course, I do not completely oppose this idea, but I think afforestation is more important. We must build forests of timber, walnuts, persimmons, chestnuts, date and other nut trees. Communes, brigades and households must all pitch in the afforestation effort. We should engage in afforestation by sowing seeds and cultivating seedlings in earthen pots and nursery plots and do everything in a down to earth manner. Afforestation means preserving water, increasing grain production, developing industrial production, developing light industrial production and promoting local small industries. I hope you will devote more effort to further study of this problem. You are welcome to submit another report to me this winter or next spring.

Yi County CCP Committee Reported on the New Situation and New Achievements in Forestry Production

The report of the Yi County CCP Committee on the development of forestry says: Your letter to the county CCP committee gave us great inspiration and encouragement. The county CCP committee has made a careful study. In the past year, while vigorously grasping agricultural production, forestry production also attained a relatively fast rate of development. Since last year, we completed the planting of 91,000 mu of trees. More than 5 million trees were planted in the campaign to turn the "four sides" green which is quite a great increase over comparable periods in the past.

According to historical records, there were dense forests in our county in the past. But due to the destruction done by the reactionary rulers in history, there were only 21,000 mu of scattered forests on the eve of liberation. After liberation, there were considerable achievements in the afforestation and tree planting efforts of the people in the country. The country was honored by the State Council as one of the advance units in forestry in 1958. However, in the past 10 years or more, due to the interference and sabotage of the ultraleftist line, the development of forestry production has been slow. Up to the end of 1978, there were still 88,000 mu of barren hills which had not been afforested.

Since the 3d plenary session of the 11th Central Committee, the passive situation in forestry construction has gradually been changed. After receiving your letter to the country CCP committee last year, we found four shortcomings in our work after basing ourselves on opinions expressed in your letter and the actual situation in forestry production in our county: First, leadership in agriculture failed to do things according to objective laws and indiscriminately stressed "taking grain as the key link" on plains

as well as on mountains, forgetting the fact that 70 percent of total land area in the county consist of hilly land; second, in harnessing mountains and water, only the engineering aspect was stressed and not the biological aspect. As a result, some engineering works could not be preserved; third, there was an erroneous tendency of "stressing afforestation while neglecting management" in forestry production. In some places, forest destruction has been serious; and fourth, the forestry departments need improvement. Technical guidance has been inadequate. In the conference on the construction of the mountainous areas in the county held in July last year, we assessed our experience and learned from it. For instance, the Chuanjiao Production Brigade is located in a remote mountainous area. In the past, it only grasped grain production but production was never high. Since 1970, they have persisted in integrated transformation of the area centering on tree planting and afforestation. They have harnessed 21 gullies, built 4,200 mu of artificial formations of woods and more than 3,000 mu of closed hillsides, transformed more than 300 mu of land which did not retain water, soil and fertilizer and at the same time developed animal husbandry. In 1978, income from forestry and animal husbandry constituted 43 percent of total income while per mu grain production was maintained at more than 1,000 jin for 8 straight years. The No 2 production teams of Baoshi Brigade persisted, in the past few years, in digging level ditches on a small plateau of 40 to 50 mu, planted acacia on top, fruit trees at mid-slopes, medicinal herbs among the trees and grain and oil-bearing crops in the level ditches. Compared with three other teams with similar production conditions, from inter-planting alone, an extra income of 15 to 20 yuan and extra food ration of 30 to 50 jin per person were realized in this production team. This shows that harnessing the mountains and afforestation is the principal way for people in mountainous areas to turn poverty into prosperity. As you indicated in your letter: "Afforestation means preserving water, increasing grain production, developing industrial production, developing light industrial production and promoting local small industries.

After studying your letter, we made revisions and additions to our original plans for constructing the mountainous areas. We clearly stipulated the firm implementation of the policy of using land suitable for forestry for forestry and land suitable for animal husbandry for animal husbandry in the mountainous areas, urged the building of timber production bases in remote and high mountains and the planting of woody oil-bearing plants and fruit trees in nearby mountains and hills. The county has marked out 18 plots of land or more than 1,000 mu each to be developed as timber production bases and 17 plots of more than 100 mu each for fruit tree planting, making a total area of 400,000 mu. In addition, to create conditions for the rapid development of forestry, the country has also vigorously rectified and strengthened the construction of forestry centers and forestry teams. As of 1979, forestry teams that had been developed in the country already numbered 453 (97 percent of the total number of brigades have forestry teams) and there were a total of more than 4,900 forest workers. There were 14 forestry centers jointly run by the communes and brigades with a total of more than 200 members and operating on 120,000 mu of land. The basic goal of having people take charge of afforestation and conservation of the forests has been achieved.

In order to win the people's confidence in government policies, the county CCP committee devised certificates for mountain areas for private use. Some brigades in remote mountains allocated some barren mountain areas suitable for afforestation to commune members for them to engage in private tree planting. This policy was very much welcomed by the masses. Dongguxian Brigade of Dugang People's Commune allocated 250 mu of land in mountain areas for the commune members' private use. In 3 days' time, the entire area was planted with trees. For 84 brigades in 6 communes in the county recognized as principally engaged in forestry, food grain distribution will take 1979 figures as a base and remain unchanged for 3 years. Extra grain production by those originally with surplus grain will not be procured by the state and any extra grain production by those originally considered to be short of grain will not be deducted from their designated supply. The county CCP committee also proclaimed that certificates of ownership of woods issued in 1963 will all remain valid. Trees appropriated by the collective will have to be returned to the individual commune members and the collective will have to pay compensation for their use.

This year, starting from Arbor Day, leading cadres at all levels personally joined in tree planting and men and women, old and young, were all mobilized to start off an upsurge in the campaign for spring afforestation and tree planting on barren hills. As of 15 April, afforestation on 41,618 mu of land in the county was completed, surpassing the quota assigned for the area by 35 percent. In the campaign to turn the "four sides" green, 3,125 million trees were planted, equivalent to 208.3 percent of the planned 1.5 million trees.

There are still many shortcomings in our work. We are still a long way from the hopes you pinned on us and the demands of the provincial and prefectural CCP committee. Recently, the county CCP committee passed the "Resolution on Vigorously Developing Forestry Production" after studying the Central Committee's instructions on vigorously engaging in tree planting and afforestation.

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STATE COUNCIL ON PLANTING FOREST SHELTERBELT IN NORTHERN PRC

OW181335 Beijing XINHUA Domestic Service in Chinese 1421 GMT 17 Jun 80

[Text] Beijing, 17 Jun--Recently the State Council circulated the "Summary of the Meeting of the 'Three North' [Northwest, North and Northeast China] Protective Forest Belt Construction Leading Group" and called on people's governments in all the 11 provinces and autonomous regions in the "three north" region, related ministries, commissions and organizations directly under the State Council and the PLA General Political Department to use it as reference for actions. At the same time, the State Council called on provinces, autonomous regions and departments concerned to be sure to strengthen leadership, vigorously cooperate, study and solve all kinds of problems arising in work in good time and to make unremitting efforts to do a good job in this undertaking.

The meeting of the "three north" protective forest belt construction leading group was held in Beijing from 6-18 March this year. Those who attended the meeting exchanged experiences, studied some fundamental problems in building a forest-shelter system and drafted a summary of the meeting.

The summary of the meeting holds that the first stage of the plan of the project to build the "three north" forest-shelter system approved by the State Council reflects the fundamental interests and wish of the masses of the people in this region and that it is imperative to insure its realization. The major task for this year and next year is to effectively protect the existing forest cover, strive to improve the quality of tree-planting work and fulfill the afforestation plan. Effective organizational, economic, technical and other measures should be adopted to basically solve the problem of a great number of trees being planted, but few surviving and still fewer growing into forests. In 1980 and 1981, we must make sure to afforest an area of 10 million mu with surviving trees, grow 3 million mu of saplings and produce 15 billion saplings that are up to standards.

The summary points out: In the strategic planning of the construction of the "three north" forest-shelter system, we must make overall arrangements while stressing the key points. In areas where forest shelter is urgently

needed by farming and livestock production and natural conditions make it possible, where party and government leading organs attach importance to the project, the forestry organizations are sound and the commune and brigade forestry farms and professionals teams are run relatively well, a number of countries (banners) should be selected as key points, to move ahead first, set examples and spur the smooth progress of construction work as a whole. Priority in assurance of manpower and financial and material resources should be given to the key prefectures (leagues) and countries (banners), so that a forest-shelter system on a certain scale can be formed more quickly and produce obvious benefits in a county, prefecture, mountain range or river valley. In disaster-ridden, low-yield areas, which are listed as key areas but where owing to rather poor conditions afforestation is more difficult, it is necessary to make vigorous efforts, select a number of communes and production brigades, break through tough problems, gain experience and create conditions for expanding achievements.

In both key areas and ordinary areas, it is necessary to plant first the types of forests and trees that are urgently needed and will produce quick results in light of current production and the livelihood of the masses. It is necessary to persist in proceeding from nearby areas to more distant areas and from the easy to the difficult and to advance from secured positions. The short-range emphases regarding types of forests to be built are on farmland shelter forests, dune-fixing forests on the edges of farmland, water and soil conservation forests and fuel forests. Pastoral area shelter forests should be included in basic pastureland construction plans. We must strive hard to complete the building of farmland shelter forests for the over 100 million mu of land in the sandstorm areas in 3 to 5 years, and before 1985, initially solve the problem of fuel, fodder and fertilizer shortage in areas suffering from soil erosion. It is necessary to actively develop bushes, forage grass and economic forests, which can produce quick results, and promote the development of agriculture, forestry, animal husbandry and sideline production, so that people in this region will become prosperous step by step.

The summary points out emphatically: We must conscientiously implement the various party and the state forestry policies and firmly and unswervingly implement the principle of relying mainly on collective afforestation by communes and production brigades, actively developing state-owned forests and encouraging individual commune members to plant trees. In the "three north" region, where the land is vast, population scarce and fuel extremely hard to get, it is especially of great significance to encourage the individual commune members to plant trees. Localities must pay attention to implementing the principle so that there will be a greater development in treeplanting by individual commune members.

The summary calls on factories, mines, government organizations, schools, PLA units, state farms, livestock farms and railway, communications and water-conservancy units and departments in the "three north" region to all regard the building of the forest-shelter system as an important task of

their own. It is necessary to formulate concrete afforestation plans, arrange for the necessary investments and assign specific personnel on a permanent basis to do a good job in running tree nurseries and fulfilling afforestation tasks within the time limit set by the local people's government.

The summary clearly explains that to build the "three north" forest-shelter system, it is necessary to practice scientific afforestation and forestry management, to proceed from the actual conditions and adhere to the principle of suiting measures to local conditions and setting up defense against disasters, to strengthen scientific forestry research and education work and to stress the importance in implementing the policy toward intellectuals.

The summary also makes protection of the existing forest cover in the "three north" region a very important component of the construction of the forest-shelter system. It has designated the Qilian Shan, Helan Shan, Luo Shan, Liupan Shan, Ziwu Ling, Qiao Shan, Huanglong Shan, Tian Shan and other forest areas as headwaters conservation forest areas. It has designated the natural Sacsacul (*Holoxylong Ammodendron*) Forest in Qog Banner, the Red Bark Dragon Spruce (*Picea Asperata*) Forest in Hexigten Banner, the valuable broadleaf forests in Nei Monggol's Daqinggou and Jirem League and the Diversiform-Leaved Poplar (*Populus Diversifolia*) Forest in the middle reaches of the Tarim River in Xinjiang as protected natural areas. The people's governments of the provinces and autonomous regions concerned should formulate regulations on the management of the headwaters conservation forests and the protected natural areas and strictly enforce them. The remote farming teams sent into forest areas and the personnel who moved into forest areas on their own must all return to their original units within a set time. Those who fail to do so after the time limit should be handled case by case following an investigation of the circumstances. Public security police stations should be set up in those forest areas and forest police assigned to them and forestry courts should be established according to need.

The summary points out in conclusion: To do a good job in building the "three north" forest-shelter system, it is necessary mainly to rely on the various provinces and autonomous regions. Party committees and governments at various levels should strengthen leadership over this project and earnestly do the following:

1. It is necessary to list the developing of forestry as an important item in the daily agenda, study plans and arrangements, conduct checkups and sum up experience. The people's governments at all levels must submit reports to the people's congresses of the corresponding level on building forest belts.
2. Leading cadres must pay personal attention to building forest belts. At the same time, it is necessary to assign leading cadres who cherish forestry and know how to develop forestry well to be in charge of specific jobs.

3. It is necessary to extensively arouse the masses, and to organize all trades to vigorously develop a campaign to plant trees and build forests.
4. Efforts must be made to conduct investigation and study in a penetrating manner, to divide a region into various districts, to assign persons to work and settle down there and to sum up and to promote the experiences of typical, advanced examples. It is essential to respect the views of experts and of scientific and technical personnel and to persistently do things according to natural and economic laws.
5. Decisions must be made and the departments and units concerned should be instructed to truly provide the necessary guarantees of manpower and financial and material resources for forestry development.
6. As for the actual, existing problems in building forests, it is necessary to conscientiously solve them within one's authority and power. The forestry departments at all levels (including enterprises related to forestry) must play their role well as assistants and advisors under the leadership of the party committees and people's governments of the corresponding level.

CSO: 4007

DIALECTICS AND MODERNIZATION OF AGRICULTURE

HK170805 Beijing ZHIXUE YANJIU No. 4 in Chinese 25 Apr 80 pp 14-21

[Article by Guo Yuezheng [6753 2588 3630]: "Dialectics and Modernization of Agriculture"]

[Text] Agriculture is the foundation of the national economy. Agricultural modernization is an important strategic task of building our country into a great socialist power.

As to how agriculture should be modernized, it is a problem of national concern. One of the primary issues of this problem is to correctly understand and properly handle the various dialectical relations of agricultural modernization.

Agriculture is an intricate realm which involves many dialectical relations. Agricultural modernization is the qualitative leap in agricultural development. It brings forth many new dialectical relations. Furthermore, our socialist agricultural modernization also has many new characteristics. Therefore, it is beyond doubt that we should correctly understand and properly handle the various dialectical relations of our agricultural modernization and work according to the objective laws of agricultural development. This has extremely important significance to our agricultural modernization.

1. The Relationship Between Traditional and Modern Agriculture

Modern and traditional agriculture are two different kinds of agriculture. The so-called traditional agriculture is small agriculture which mainly uses manual agricultural implements, uses human and animal power as motive power and relies on direct production experience. Production is mainly carried out by a single household with very low labor productivity, output and commodity rates. This kind of agriculture came into being over a long period of time under feudalistic social conditions. At present, in terms of production relations, our agriculture is under socialist public ownership and carries out collective production labor. However, in terms of the level of development of the productive forces, with the exception of the few advanced state farms and commune brigades, the majority still have not transcended the

limits of traditional agriculture. In the extensive rural areas, the principal agricultural implements are still manual, and agriculture relies on labor and animal power as motive power. The labor productivity is still very low. In some areas, the annual output of food of an agricultural laborer is just 2,000 jin or even less. This stands at the level of the Han Dynasty 2,000 years ago.

It is different with modern agriculture which is equipped with various kinds of modern agricultural machinery. It uses modern energy and makes extensive use of modern scientific technology. It also practises the integration of agriculture, forestry and animal husbandry, and regional specialization and coordination. This kind of extensive farming has greatly improved the rates of labor productivity, output and commodity. There are still many household farms in capitalist countries which have modernized their agriculture. But this kind of household agriculture is part of the specialization and coordination of the system of extensive farming. For instance, farmers who engage in cultivation specialize in cultivation and harvesting. Whereas specialized companies shoulder the responsibilities for the preparations of seeds, fertilizers and insecticides, take care of the manufacturing and maintenance of agricultural machinery, handle the purchasing, transportation, storage and processing of products and even undertake economic accounting. This kind of household farming is no longer intensive farming in its original sense but is actually an operation link of modern extensive farming which has socialized its production.

The transition from traditional agriculture to modern agriculture is the inevitable trend of agricultural development. It is the great trend of agricultural development of the present age. In the past 50 years, many developed countries have successively undergone their transition from traditional agriculture to modern agriculture. At present, many underdeveloped countries are trying their best to undergo such a transition.

The transition from traditional agriculture to modern agriculture is the inevitable trend of our agricultural development. There are the contradictions between the urgent demand of agricultural laborers to improve their laboring conditions and the backward agricultural technological installations, between the backward agricultural productivity and the socialist system of public ownership, and between the present state of agricultural production and the needs of the whole socialist construction and the growing demands of the livelihood of the millions of people. All these contradictions are the strong motive power for the development of our agricultural production. It dictates that our agriculture must pass from traditional agriculture to modern agriculture. The "gang of four" has maliciously advocated that "the day the Four Modernizations are fulfilled, will be the day that capitalism is restored." They tried their best to obstruct and disrupt our agriculture's transition from traditional agriculture to modern agriculture. This only reveals that their theory is rampant metaphysics and their actions are reactionary which go against the trend of social historical development.

The transition from traditional agriculture to modern agriculture is the qualitative change and leap of agricultural development. However, modern

agriculture is derived from the development of traditional agriculture. The replacement of traditional agriculture by modern agriculture is the negation of traditional agriculture. However, it does not mean simple and allout abandonment. On the contrary, it is positive improvement of the rational parts of traditional agriculture and selective inheritance. It is based on modern material and technical installations and the application of modern scientific technology. [HK170806] Therefore, in the process of our agricultural modernization, there is the problem of correctly understanding and properly handling the relations between traditional and modern agriculture. The material and technological foundation and the form of production structure of our traditional agriculture is already outdated. They must be gradually replaced by modern material and technological installations and a modern agricultural production structure. However, much of our production experience in traditional agriculture has been accumulated over hundreds of years of agricultural production practice by millions of laboring masses in the specific environmental conditions of a populous country with limited arable land and complex landscape. In cultivation, such experience includes intensive cultivation to increase per unit area yield and intercropping to increase land utility; in animal husbandry, the experience of breeding superior stocks which are adaptable to coarse fodder and are disease resistant; in fishery, the experience of breeding silver carp, grass carp, carp and crucian carp together to make full use of different water levels; in forestry, the experience of planting the right kind of trees which suit the soil and the comprehensive use of forestry and so forth. Such experience is still useful for our agricultural modernization. Of course, on the basis of modern material technology, these still need transformation and improvement through the application of modern scientific technology. Only thus can we positively and cautiously carry out the transformation of our agriculture from its traditional phase to its modern phase. Any attitude or practice which favours wholesale inheritance or abandonment are not in conformity to the internal dialectics of agriculture itself.

The transition from traditional agriculture to modern agriculture is a process of fundamental qualitative change. Such a process has its own stages of development. Ours is a populous country with limited arable land and our existing industries are incapable of equipping our agriculture. Under such conditions, the initial stage of our agricultural modernization will have to focus on biotechnological measures. This should be supplemented by the control of mountains and rivers, soil improvement, and improvements of the ecological balance and the cultivation systems. Furthermore, the agricultural machinery supplied by our industries should be fully utilized to improve the land productivity. This should be followed by the next stage of transition which is characterized by the extensive equipment of agriculture with a large amount and variety of highly efficient agricultural machinery. This will greatly improve the agricultural labor productivity, output and commodity rate. The transition from one stage to another is a progressive partial qualitative change. Since ours is a country of vast territorial dimensions, the landscape, soil, climate and rainfall differ greatly from region to region. There are also many differences in population density, industrial foundation, and level of scientific technology. Therefore, the development of agricultural

modernization will not be the same between regions. In some regions, the process of "modernization" will come earlier, in others it will come later. In terms of the modernization of the whole country, the modernization of a single region represents a regional and partial qualitative change. With the development of our four modernizations, this new quality will gradually expand quantitatively and ultimately extend to all regions of the nation and effect the ultimate qualitative change of our agricultural development. On the whole, this kind of qualitative change is common among various departments of agricultural production and even the various production links. The fundamental qualitative change of our agricultural development is to be fulfilled through progressive partial qualitative change and regional partial qualitative change. This demands that in the process of our agricultural modernization, we should proceed from the facts and adopt appropriate steps in anticipation of its various stages of development. Furthermore, it also demands the various regions and departments to formulate realistic and workable programs according to their specific conditions so as to turn the modernization of agriculture into a reality. We should neither be impetuous, hoping to modernize agriculture at one blow; nor should we adopt a laissez-faire and leisurely attitude and decline from fulfilling modernization where the conditions are ripe.

2. The Relationship Between the Generality and Individuality of Agricultural Modernization

Agricultural modernization is an epochal and international concept. Of course, it is also a developing concept. From the perspective of the present advanced level of agriculture in the world, there are certain definite contents which symbolize the nature of agricultural modernization. These include modernization of the means of production which means modernized materiel and technological installations; the modernization of production technology which means the extensive application of modernized scientific technology; modernization of the production structure which means the organic integration of agriculture, forestry and animal husbandry and the coordination of regional specialization; and the modernization of management, modernization along these lines constitutes the common demands and generality of agricultural modernization. The agricultural modernization of any country cannot afford to deviate from this general character; otherwise, it can no longer be regarded as agricultural modernization.

[HK170807] However, there are often marked differences between the actual conditions of agricultural production in different countries. Different countries might differ in natural environment, agricultural resources, social systems, population composition, industrial, scientific, cultural and technological levels, and the tradition of agricultural production. Therefore, in their agricultural modernizations, different countries might have their own characteristics in terms of the types and functions of material technological installations, the actual application of modern scientific technology, the actual form of the integration of agriculture, forestry and animal husbandry, the actual practice of the coordination of regionalization and specialization and so forth. This is the individuality of agricultural

modernization. The agricultural modernization of any country more or less has its own individuality. Agricultural modernization which has no individuality is nonexistent in all the agriculturally modernized countries.

To modernize our agriculture, we should correctly understand and properly handle the relation between the generality and individuality of agricultural modernization. We should neither deviate from the generality of agricultural modernization by lowering the standard of our agricultural modernization; nor should we divorce ourselves from our actual conditions and directly and fully copy the experience, practices and indices of agricultural modernization from abroad. There should be unity between the generality and individuality of our agricultural modernization. This is an important problem which affects the orientation of our agricultural modernization, production structure, regional planning, specialization, procedures, means and measures. The crucial point is to integrate the common demand of agricultural modernization with our actual conditions.

Concerning the road of agricultural modernization: Some capitalist countries have taken the path of the city exploiting the countryside, large peasant households encroaching upon small peasant households and large farms encroaching upon small farms. We cannot take such a path because ours is a socialist country. We can only take the path of mutual development and prosperity which involves mutual aid between workers and peasants and between city and countryside. In the process of actual modernization of agricultural production, the United States started with the popularization of agricultural mechanization at the cost of more extensive cultivation. This is then followed by intensive cultivation to increase the per unit area yield. Our country has a large population but limited arable land. In order to feed and clothe the 900 million population, we have to attach great importance to increasing the per unit area yield at the outset. Moreover, our industrial capacity is very limited and it is impossible to popularize mechanization all at once. Furthermore, in modernizing its agriculture, Japan has adopted the method of heavy state subsidy. The Japanese can make it because they are industrially developed, rich in financial resources and having only 80 million mu of cultivated land. It is impossible for us. In this way, our process of agricultural modernization is different from that of the United States. We cannot start with the popularization of mechanization. Instead we proceed from our actual conditions and adopt all possible measures to make full use of our superiority in agricultural labor resources. We carry out our agricultural mechanization gradually on the precondition of safeguarding and continuously increasing the per unit area yield and gross output. We are also different from Japan. Our capital for agricultural modernization cannot rely on substantial state subsidy. It can only rely primarily on the accumulation of agriculture itself in addition to the steady increase of state investment in agriculture.

Furthermore, agricultural modernization must also establish a rational production structure integrating agriculture, forestry and animal husbandry. This is the common point between different countries. However, since the conditions vary from country to country, each has its own characteristics in the way of integrating agriculture, forestry and animal husbandry. At present,

the agricultural production structure of many countries is dominated by pastoral farming. Furthermore, many countries still have to rely primarily on imported fodder to develop their animal husbandry. Our population is so large that our food production is still unable to meet our needs. We cannot put aside too many fodder crops to develop our animal husbandry. Our country is too large and our financial resources too scarce for us to import fodder crops extensively. Furthermore, there are not too many fodder crops to be imported. At present, the proportion of animal husbandry in our agriculture is still very low. It is still impossible to give first priority to animal husbandry in the near future. Therefore, in the structure of agricultural production, we can only proceed from our actual conditions and not directly copy from other countries. For a considerable time to come, cultivation will still occupy a leading position in our structure of agricultural production. Of course, there is the need for us to develop animal husbandry extensively and gradually change its proportion in agriculture. Our country has the fine tradition of integrating agriculture and animal husbandry in the development of animal husbandry. There are 4,500 million mu of pastures, barren hills and slopes for the potential use of developing animal husbandry. There is no doubt that our animal husbandry can be greatly developed by hard work.

[HK170808] Concerning the planning of agricultural regions: For the sake of increasing agricultural productivity, modern agriculture must carry out regional planning according to the needs of the natural ecological environment, agricultural resources and the development of the national economy. This holds true for any country. However, conditions differ from country to country. Each has its own characteristics in regional planning. For countries such as the United States, the topography in most regions is relatively smooth. It is possible to plan pastoral and agricultural regions, there can be several different large crop belts, some of which might cut across several states. Our geographical conditions are more intricate than that of the United States. Our plains only occupy 10 percent of the total land surface and are intersected by many crisscrossing mountain ranges and high mountains. It is not easy to designate several large crop belts as in the case of the United States. Even within a single province, there are plains, mountainous regions and rolling hills. Some even have swampy regions and river banks. Even within the same mountainous region, there are also different conditions at different altitudes. Thus, the designation of agricultural regions is highly complicated in our country. At the national, provincial and local levels, we can only proceed from the actual conditions and adapt ourselves to local conditions instead of simply copying from abroad.

For other items of our agricultural modernization, such as the division of labor between specialized departments, procedures, methods and measures, they must be the result of the unity of the generality and individuality of agricultural modernization. Even within the country itself, there is still the problem of correctly understanding and properly handling the relationship between the generality of national agricultural modernization and the individuality of local agricultural modernization.

The relationship between the generality and individuality of contradictions is the quintessence of the problem of contradictions. To ignore it is to abandon dialectics. In the past, our correct handling of the relationship between the generality and individuality of contradictions in the revolutionary struggle has played a significant role in securing the victory of the revolution. For the present and the future, victory in the construction of the Four Modernizations is dependent upon our correct handling of the relationship between the generality and individuality of contradictions.

3. The Relationship Between the Productive Forces and Relations of Production and Between the Laborer and the Means of Production in Agricultural Modernization

Agricultural modernization involves not only the modernization of the productive forces, but also modernization of the relations of production. In other words, relations of production compatible with the modernized agricultural productive forces should be established. The relationship between relations of production and the productive forces is a unity of opposites. Productive forces determine the relations of production which in turn have their reactions on the productive forces. Advanced relations of production spur the development of the productive forces while backward relations of production obstruct the development of the productive forces.

Ours is a socialist country. The relations of production in our country, whether it is the state farm's system of ownership by the whole people or the people's commune's system of public ownership, are all socialist relations of production. They conform to the demands of the development of our agricultural productive forces. As socialist relations of production are superior to capitalist relations of production, they will create agricultural productive forces far superior to those of a capitalist society. This is an undeniable and unshakable fact. However, in certain specific systems in the socialist relations of production, there are still areas incompatible with the development of agricultural productive forces. They should be continuously adjusted and improved according to the needs of the agricultural productive forces. For instance, the system of integration of government administration and commune administration has played a definite role in the development of our agricultural productive forces. However, in many places there have been many instances of excessive intervention into production by administrative means. To a certain extent, much practices have deprived the peasants of their self-initiative thus hampering their enthusiasm for production. In fact, the subjective will of the administrators has replaced realistic arrangement of production and it is impossible to do a good job of agricultural production according to objective economic laws. It is worth investigating whether this is the defect of the system itself or a problem of implementation. This problem should be clarified and appropriate adjustments and improvements should be made according to the need of the development of agricultural productive forces. Take for another instance the perennial practice of separating agriculture, industry and commerce into individual systems. Peasants are confined to agriculture and are not allowed to engage in commerce. The purchasing and marketing of agricultural products is monopolized by the state commerce

department and the supply and marketing cooperatives. The peasants are not allowed to take part in it. As regards participation in industrial undertakings, the peasants are restricted from establishing industrial or mining enterprises to exploit local resources. Nor are they allowed to process their agricultural products. As a result, there are the phenomena of "commerce taking advantage of agriculture" and "industry taking advantage of agriculture." [HK170809] This is harmful to opening up more avenues of production for the peasants. It will also delay the peasants from getting rich and slow down the pace of agricultural modernized construction. The system of separation of agriculture, industry and commerce should be replaced by the integration of the three. In addition to agricultural production, peasants should also be allowed to establish rural industrial enterprises and engage in the processing and marketing of agricultural products. This will mobilize the enthusiasm of the peasants, make them rich gradually and speed up the development of agricultural modernization. Of course, there are also problems with these practices. For instance, the operation of certain state industrial and commercial enterprises might be temporarily affected. A market outside planning might emerge and there might be difficulties in management. However, as long as there are appropriate policy stipulations and superior guidance, it is not difficult to solve these problems.

Within the agricultural productive forces, there is still the problem of relations between the modernization of the agricultural laborer and modernization of the means of agricultural labor.

The laborer and the means of labor are the two important elements of the productive forces. Their interaction and mutual promotion spur the development of the productive forces. This is the internal law of contradictory movement in the productive forces. The pressing demands of our agricultural laborers to improve labor conditions, reduce labor intensity and raise the rate of labor productivity will spur the modernization of the means of agricultural labor. Whereas modernization of the means of agricultural labor will in turn improve the production skills of the agricultural laborers. The modernization of our agricultural productive forces will be fulfilled in this process of contradictory movement. Therefore, in the modernization of our agricultural productive forces, we must equip our agriculture with modern agricultural machinery. Meanwhile, we should also continuously improve the skill of our agricultural laborers in the use of modern agricultural machinery. This is the fundamental path for the modernization of our agricultural productive forces.

However, in our task of modernizing our agricultural productive forces, we have met many difficulties. Our peasants are too poor to afford modern agricultural machinery. The operation cost of such machinery is also too large and uneconomical. Furthermore, the peasants' scientific and technological level is so low that very few people know how to operate modern agricultural machinery. The quality of some agricultural machinery is also too poor and lacks sufficient spare parts. As a result, the peasants do not want them. Such difficulties can be surmounted only through strenuous effort. This includes conscientious implementation of the party's agricultural policies,

improvement of agricultural machinery production, and increased investments in agricultural, scientific, cultural and technological education.

There will be new problems in the process of modernization of our agricultural productive forces. Our countryside has a population of 800 million of which 300 million have laboring power. Such a laboring force is too large. Modernization of the means of agricultural production will inevitably raise the labor productivity rate extensively. Over 100 million of the labor force will be released from direct agricultural labor. Such an enormous labor force together with their dependents will amount to several hundred million. The resettlement of this rural population is an outstanding problem in our populous country. It is impossible to channel all of them into the cities. It will take 500 newly established urban centers each with a capacity of one million to accommodate them. It is obvious that this is impossible. A more realistic method is to promote intensive cultivation to accommodate more people in the field. Meanwhile, more avenues of agricultural production should be opened. Rural enterprises should be established and rural scientific, cultural and technological education should be developed. Excess agricultural labor should be deployed locally in animal husbandry, forestry, fishery, industry, commerce, transportation, the service industry and science and technology and educational affairs. These are problems that deserve attention in the process of the modernization of our agricultural productive forces. If we try our best, these problems can be resolved.

4. Relation Between Agricultural Modernization and the Other Three Modernizations

The Four Modernizations are a unified entity in our modern construction. They are mutually dependent and promote each other. Agricultural modernization is the condition guaranteeing the fulfillment of the other three modernizations. However, agricultural modernization, in turn, depends on the other three modernizations. Only industrial modernization can equip agriculture with modern agricultural machinery, furnish agriculture with modern energy, chemical fertilizers, highly effective insecticides and fodder. Only the modernization of national defence can provide a safe environment for our whole modernization construction including modern agricultural construction. Details of these aspects will not be discussed here.

[HK170810] The key to the Four Modernizations, including agricultural modernization, is the modernization of science and technology. Modern agricultural science and technology is far different from traditional agricultural science and technology. If we say traditional agricultural science and technology is for the most part a macro description of agricultural organisms and their environment and the summary of traditional agricultural production experience; then, modern agricultural science and technology has gone much on further. It has entered the stage of exploring the law of life movement of the agricultural organism at the molecular level. It seeks to explore the dialectical movement of agricultural production in terms of the internal relations of the various factors in the ecological system. Furthermore, it is the comprehensive application of various disciplines of modern science and technology in agricultural production. Modern agricultural science and

technology is the comprehensive summary of physics, chemistry, astronomy, geography, biology and mathematics in production practice. About 60 to 80 percent of the increase of agricultural labor productivity is due to the application of modern science and technology. At present, many developed countries have devoted much attention to the application of modern science and technology in agricultural production. This includes nuclear science and technology such as radioactive breeding and atomic tracing, remote sensing techniques such as the detection and surveillance of agricultural resources by infrared scanning from satellites, molecular biological science and technology such as genetic engineering, electronic computing techniques, and systematic engineering, techniques. This represents further advance in agricultural production techniques. Science itself is a productive force. When it is still in its conceptual form, it is a latent productive force. When it becomes applied technology and is actually applied in production, it becomes a direct productive force. Development of modern agricultural science and technology is, in fact, the development of modernized agricultural productive forces. Our agricultural science and technology is still very backward. Few of our agricultural laborers have mastery over modern agricultural science and technology. For the sake of modernizing our agriculture, we must speed up the development of our modern agricultural science and technology, the nurturing of talents in modern agricultural science and technology, and the training of our agricultural laborers in modern production techniques.

5. Agricultural Modernization and Ecological Balance

The objects of agricultural production, whether they are field crops, livestock, poultry, fruits, or aquatic products, are all living organisms. All living organisms are under a given ecological system. Within the same ecological system, the various organisms are mutually related and conditioned to one other. Furthermore, their existence depends on given environmental factors such as water, soil, light, heat and air. Within the ecological system, there is a constant interchange of matter and transformation of energy between different types of living organisms and between the living organisms and the environmental factors. Ecological balance is the state in which the interchange of matter and energy transformation between the different types of living organisms and between different environmental factors are in line and compatible with each other. In philosophical terms, it is the relative unity among the various contradictory factors.

Ecological balance is the fundamental condition for the existence and development of living organisms. Of course, it is also the fundamental condition for the existence and development of agricultural living organisms as objects of agricultural production. In agricultural production, the objects of production should be in a state of equilibrium between the interchange of matter and energy transformation within the ecological system. Only thus can they grow and develop normally and agricultural output increase extensively. On the contrary, if the ecological balance is disrupted and there are obstructions to the interchange of matter and energy transformation, the objects of agricultural production will not be able to grow and develop normally and there might be a poor harvest or reduced output in agricultural production.

Ecological balance is the objective basis for our agricultural production. We should give due considerations to ecological balance in our arrangement of agricultural production. In the process of production, we should at all times give attention to adjusting the ecological balance. For instance, in the organization of farmland production, considerations should be given to soil, fertilizers, water conservancy, climate, illumination and the inherent mutual relations between the growth of agricultural crops and factors such as weeds in the field, pests, and natural hazards. Whereas in the process of production, attention should at all times be given to the maintenance of balance between the interchange of matter and energy transformation among these factors. If the fertility is too low, it should be remedied by more fertilization. If there is not enough water, it should be remedied by irrigation. If there are infections of injurious insects, it should be remedied by biological or chemical preventions. Only thus can the crops grow and develop normally and deliver high yields.

[HK170811] Ecological balance is dynamic rather than static. Any existing ecological balance will be overtaken by a new ecological balance through a process of transition. The control of mountains and rivers, increase of soil fertility, planting of forests, and improvement of the climate will increase the number of living organisms that the original environment can hold. This will bring the interchange of matter and energy transformation between the living organisms and the environment to a new balance. The increase of production in agriculture, to a great extent, is fulfilled through the improvement of the ecological balance.

Ecological balances, especially the weaker ones, are easily disrupted. Change in any one of the factors in the ecological system is likely to upset the ecological balance. Any one of the conditions of drought, insufficient illumination, sudden drop in temperature, excessive catching of beneficial insects or birds, will upset the balance of interchange of matter and energy conversion in the ecological system of the field and result in poor harvest or reduced output.

There are many factors which might upset the ecological balance; some of them are natural, some of them artificial. Some of these factors can be controlled by men while some of them cannot.

Human activities, to a great extent, are interfering with the ecological balance. Men can maintain the ecology balance or upset it. Over the past 20 years, the idealism of Lin Biao and the "gang of four" was very popular and metaphysics held its sway in our country. They tried their best to advocate "the theory of upholding the spirit above everything else" and popularize "the struggle philosophy." Their theory is onesided and their actions are likewise lopsided. They played down the role of balance in the development of things. In the field of agricultural production, their influence is expressed in various ways. This includes the failure of certain places to work according to the law of ecological balance; the lopsided emphasis of "food as the key link"; the misguided principle of "struggle with heaven and earth"; haphazard clearance of forests, opening up of

grassland and reclamation of lakes; and operations which amounted to pillaging. These, together with the environmental pollution brought about by industry and transportation has resulted in very serious disruption of the ecological balance. This not only brings serious difficulties to our construction of agricultural modernization, but also threatens the life and health of the people. Objective laws are unrelenting toward men. Violation of them will bring about punishment. The degree of such punishment is commensurate with the degree of violation. The restoration and protection of natural ecological balance is an important task of our present production construction.

One of the important tasks of agricultural modernization is to build up a new ecological balance which is more in conformity to the needs of agricultural development. This should be on the basis of our knowledge about the ecological environment, ecological system and ecological balance. It also requires the use of modern material technological installations and application of modern science and technology. This is a strategic measure in developing agricultural production and a master plan which will benefit the generations to come. The control of mountains and rivers, planting of forests and grassland, rational utilization of natural resources, prevention of environmental pollution, and the integrated operation of agriculture, forestry and animal husbandry are all important means for establishing a new ecological balance.

A rational agricultural production structure is closely related to the restoration, protection and establishment of ecological balance. Forest vegetation can conserve water, prevent erosion, regulate climate, and conserve beneficial insects, birds and animals. The animal manure can in turn improve the soil by increasing its organic composition. The mulberry trees can support the raising of silk worms while the excretion of the silkworms can be used to feed the fish. The excretion of the fish can accumulate to become fertile pond sludge which can be used to fertilize the field. When there is a good harvest, tangerine stems, leftovers and excess human food can be used to develop animal husbandry. The bean and vegetable cakes left behind by the processing of agricultural products and the waste water can be used either for fertilization of the field or for raising pigs or fish. Agriculture, forestry, animal husbandry, sideline occupations and fishery are components of a closely connected entity. It is an expression of the natural law of ecological balance. Proper integration of these component parts can improve the ecological balance and speed up the development of agricultural production. Lopsided emphasis in food production is in violation of the natural law of ecological balance. It will only upset the natural ecological balance and result in failure to improve food production.

For the sake of modernizing our agriculture, we must build up a rational agricultural production structure. This production structure, in short, is an integration of agriculture, forestry, animal husbandry, sideline occupations and fishery. Different regions have different actual conditions and varieties of production. There are marked differences between agricultural, forestry and pastoral regions. Problems such as the principal form of

production, the integration of various aspects of agricultural production and the concrete agricultural production structure should be determined according to local conditions. But anyway, an agricultural production structure operated in an integrated manner should be established. [HK170812] A commune brigade or region should establish its rational and integratedly operated agricultural production structure according to its specific ecological conditions. Not only that, in the country as a whole there should be rational division into agricultural, forestry and pastoral regions and a rational national agricultural production structure should be built up. This will meet the needs of modernizing our agriculture and transforming our natural environments.

6. Agricultural Modernization and the Internal Contradictory Movements of Living Organisms

Assimilation and dissimilation, inheritance and mutation are two pairs of internal contradictions common to all living organisms. To be sure, they are also the internal contradictions of agricultural living organisms. Of course there are certain external environmental conditions which are of primary importance for the existence, development and change of living organisms. But, in the final analysis, the ultimate factor is the internal contradictory movement of living organisms.

The contradiction between assimilation and dissimilation penetrates the whole process of development of the living organism. It maintains a constant process of exchange of matter and transformation of energy between the living organism and the external environmental factors, resulting in the selfrenewal of the living organism. It is the foundation and internal basis of all life activities. The intensity of the assimilative and dissimilative functions determines the growth and development of living organisms.

Inheritance and mutation are two basic qualities of living things. Inheritance is the aspect which maintains the relatively stable quality of the living species, whereas mutation is the aspect which promotes the changes of the quality of the living species. The interaction of inheritance and mutation spurs the development and change of the living species.

The contradictory movements between assimilation and dissimilation, inheritance and mutation are the basic laws of life movement. This law should be consciously utilized. Furthermore, the development of agricultural production should be focused on the single issue of breeding superior varieties which can utilize the environmental factors effectively. Only the superior varieties can have the best interchange of matter and energy transformation with the environmental conditions and achieve the goals of superior quality and high yield. If we say one of the important tasks of modern agricultural production is to utilize modern material technological installations and science and technology to create the most suitable ecological environment for the objects of agricultural production, then another important task is to breed superior species which can make effective use of the environmental conditions.

Superior varieties of food crops which can make full use of illumination can greatly increase the photosynthetic efficiency and raise the intensity of photosynthesis of the crops. Above 90 percent of the net weight of the root, stem, leaf, flower and fruit of a plant is composed of organic matters produced by photosynthesis. The principal material constituents come from the atmosphere. On the condition that all the other factors remain unchanged, superior varieties which can make full use of illumination can contribute markedly to increased output. If this is supplemented by the improvements of water and fertile conditions and the cultivation system, the output can be substantially increased. According to information from abroad, about 20 to 40 percent of the increase of per unit area output of food crops is due to the nurturing and popularization of superior varieties. Therefore, many countries attach great importance to the study of the contradictory cycles of assimilation and dissimilation, and of inheritance and mutation. They use various kinds of modern science and technology and attach great importance to the nurturing of superior varieties.

If we want to modernize our agriculture, we must attach great importance to the nurturing of superior varieties. Our agricultural workers have already achieved certain results in this respect. But in terms of our work and techniques in breeding, we are still lagging far behind the countries advanced in agricultural production. We still have to do a lot of catching up.

[HK170813] There are still many other dialectical relations in agricultural modernization. For instance, there are many intricate dialectical relations between the various technological programs of agricultural modernization, mechanization programs, water conservancy programs, physical programs, chemical programs and biological programs. All of them need correct understanding and appropriate handling. All these programs are necessary for agricultural modernization. They are interrelated, promote each other and play their role in an integrated manner. As to what kind of program should be taken as the principal one in a given region and time, this should be determined on the basis of the actual conditions. But generally speaking, mechanization programs should be the basic measure in agricultural modernization because the means of production have always been the criterion of the level of development of production. Furthermore, agricultural modernization is developed upon the foundation of modern industry. In essence, it is the industrialization of agriculture. At the present stage of our agricultural modernization, due to our limited financial and industrial capacity, we cannot carry out extensive mechanization. We have to focus our work on biotechnical programs which have to be supplemented by other physical and chemical programs. Furthermore, we should try our best to equip agriculture with modern agricultural machinery. Of course, this does not rule out the possibility that at the present stage those regions and agricultural production departments which have the necessary conditions can focus on mechanization programs.

In short, agricultural modernization is a very intricate realm. In our agricultural modernized construction, we should apply Marxist dialectical materialism to discover the dialectical relations of various kinds of factors and handle them properly.

AWARDS FOR PROMOTERS OF AGRICULTURAL TECHNOLOGY URGED

Beijing GUANGMING RIBAO in Chinese 7 Apr 80 p 2

[Article: "Promotional Work Needs Rewards System"]

[Text] In recent years quite a few agricultural scientists and technicians have been given commendations or rewards for the results of their research or for having written some treatise of value. This is as it should be. However, those scientists and technicians who have made outstanding accomplishments in the successful promotion of agricultural science and technology have rarely been cited therefor. This shows that numerous places have still not placed the promotion of the fruits of science and technology in the position it deserves. Unless this situation changes, it will be very disadvantageous to the development of production.

Promotional work on the fruits of agricultural science and technology is currently very weak in our country with numerous accomplishments not having been generally extended to agricultural production, and with some accomplishments having been shelved and forgotten for lack of anyone to promote them. One major reason for this situation is the continued existence of some problems in policies for the promotion of agricultural science and technology. For example, though many places have begun to give serious attention to agricultural research, nevertheless there exists a general notion that formulation of plans means only formulation of scientific research plans, that disbursement of operating expenses means only disbursement of operating expenses for scientific research, and that payment of reward money means only payment of rewards for academic treatises or for accomplishments in scientific research. When it comes to work for the broad dissemination of the accomplishments of scientific research, however, nothing is provided anywhere, and in the case of some units, no one even inquires about promotional work. Unless these problems are solved, how will any promotional work get done?

It must be noted that while arduous exertions must be made to discover and create accomplishments in agricultural science and technology, a lot of experimentation, demonstration, and study has to be done in order to be able to introduce, popularize, promote, and improve these results, and this

requires arduous exertions too. Promotion of the results of agricultural science and technology is an important integral part of agricultural scientific and technical work; it is an indispensable link in the application to agricultural production of the results of science and technology. If this link is not handled well, the accomplishments of science and technology cannot be directly translated into productivity. The main reason that so many technicians involved in the promotion of agricultural science and technology are presently so unhappy and want to escape from the "agricultural field" is that they feel it offers no "prospects." To be able to get a commendation and rewards for some research accomplishment, while gaining no recognition or reward after toiling hard for a decade or several decades in promoting and putting into general use the accomplishments of scientific research is clearly not reasonable.

In order that the promotion of scientific and technical accomplishments in agriculture may develop vigorously in our country, there is a need for the establishment of a system of rewards for the promotion of agricultural scientific and technical accomplishments. Some have proposed institution of the "contract system," whereby declines in production resulting from the demonstration of new agricultural technology can be made up to the producing units from funds for promotion of agricultural science and technology by the departments concerned. When, on the other hand, the promotion of new science and technology brings pronounced increases in output, a proportional amount of the income derived from the increase could be apportioned as an expenditure for rewarding personnel who have done the promotion of agricultural science and technology. This suggestion merits serious consideration. Henceforth, each province, prefecture, and county should conduct periodic summaries and evaluations of the promotion of accomplishments. At the same time, they should also make the doing of a good job a general condition for future promotions of personnel involved in promotion of technology. This will be advantageous in arousing and making the most of the enthusiasm of the broad masses of technical personnel, make them be more content with their present occupations, and will make a greater contribution to the universal promotion of the results of agricultural science and technology.

9432

CSO: 4007

HUANAN INSTITUTE OF BOTANY ACHIEVES SEVERAL SUCCESSES

Guangzhou NANFANG RIBAO in Chinese 10 Apr 80 p 1

[Article: "Huanan Institute of Botany Achieves Several Research Successes; Implements Program in Which Research on Basic Theories and Applied Research Are Paramount"]

[Text] The Huanan Institute of Botany's researchers have defined their research tasks, headed research in the right direction, and implemented a program in which research on basic theories and applied research are paramount. It has consequently achieved several successes in its research that are intimately related to the national economy, industrial and agricultural production, and the livelihood of the people.

The Huanan Institute of Botany, which was founded in 1928, is our country's oldest research institute and possesses quite strong technical clout. During the period of wanton persecution by Lin Biao and the "gang of four," many old experts and researchers in the institute were accused as "reactionary academic authorities," suffering beatings and abuse, which seriously damaged research efforts. Following the smashing of the "gang of four," and particularly since the holding of the All-Chinese Science Congress, once the institute had selected and appointed some experts and specialists, it again organized its capable researchers to take over the leadership of the institute and its various research laboratories to gradually change the state of affairs in which laymen occupied leadership positions. It redefined the overall tasks of the institute, principal of which was responsibility for the development and use of South China's tropical and semi-tropical botanical resources as well as research on purification of introduced varieties. At the same time the institute labored to improve the condition of its equipment, did a good job of information materials work, solidly affirmed work hours for scientists and technicians, and made all research work move along quite smoothly. As a result, it achieved some research successes. For example, for the prevention and control of huanglong disease [7806 7893 4016] in citrus fruit, researchers at this institute took advantage of the fact that the virus was not evenly distributed throughout the body of the plant and that there was no virus or no detectable virus in the meristematic tissue at the tips of the plants. They successfully grafted nursery stock to the tips of the citrus stems. This

should serve a definite function in the prevention and control of Huanglong disease, which is currently ravaging the citrus crop. Just at the time when peanuts (particularly spring peanuts) grown in south China are flowering and forming pods (i.e., the time when their nutritional apparatus is operating most vigorously,) there are high temperatures and much rain. In areas where fertilizer and water applications are high, the stalks frequently grow inordinately long and out of control, which usually leads to lodging with reduced production. Researchers at the Botany Institute began applications of "Bijiu" [3024 0036] in a study of its effects on increased yields and its physiological basis, and they adapted "Bijiu" to the regulation of the growth and development period of the peanuts, changing the proportional distribution of nutrient material in the nutrition and fruiting organs. Outstanding results were achieved in increased yields and stable yields; the material could be easily applied; and costs were low. It became a new technology for gaining consistently high peanut yields. There was also successful experiments with man-induced scent formation by the agalloch eaglewood, successful experiments in the new antitubercular chemical components of Japanese ardisia and successful experiments with improved assay of multi-mycins and making medicines more effective, successful research into the breeding of improved varieties of Chinese tallow trees and into propagation techniques, uses, and extension of the area of their cultivation, and successful experiments with culturing of the basal tissue of "hewu" [0678 0063] produced by the anthers of xian and geng rices. All these played a good role in industrial and agricultural production.

9432

CSO: 4007

PROVINCES TAKE FLOOD PREVENTION MEASURES

OW161301 Beijing XINHUA in English 1233 GMT 16 Jun 80

[Text] Zhengzhou, 16 Jun (XINHUA)--The Yellow River, China's second longest river, may experience exceptionally heavy flows this year, representatives from four provinces along the river's middle and lower reaches were warned at a recent meeting here.

The Yellow River flood prevention headquarters, based in Zhengzhou City, said Shaanxi, Shanxi, Henan and Shandong provinces should get manpower and material ready as precautions against heavy flows.

The headquarters quoted a long-term weather forecast as saying that the Yellow River basin is expecting heavy rainfall this summer and autumn.

Past experience shows that successive years of drought are often followed by a period of heavy rains. The Yellow River's middle and lower reaches have suffered from drought for several years running. These areas have had little rain and snow since last winter, with unusually low temperatures during the period. This, the flood-prevention headquarters said, is also a sign of possible flood.

Some scientists said that the frequent sunspot activities over the past year also may point to heavy flows in the Yellow and other rivers for a few years.

Yellow River dykes have been reinforced and raised higher in the past three decades and reservoirs and water detention basins built. Since this spring, the dykes in the lower reaches have been further strengthened.

CSO: 4020

DAMAGE TO SCIENTIFIC RESEARCH EXPERIMENTS IN AGRICULTURE REPORTED

Letter to Editor

Beijing GUANGMING RIBAO in Chinese 19 Mar 80 p 2

[Text] Comrade editor: After the meeting of the National Scientific Congress, great progress has been made on all scientific and technological fronts. We here, however, have unceasingly been faced with the matter of having our scientific-experimental base ruined, and it is really enough to break one's heart.

Our institute is located in the countryside of Dan County, Hainan Island. Beginning in August 1978, a number of people from the surrounding villages have unceasingly, on the pretext of territorial disputes in the area, forcibly occupied the experimental land of our institute, destroyed our experimental nursery stock of rubber trees, cut down our experimental shelter-forest, gathered the latex in our experimental forest station, and destroyed our living quarters and working areas. Cadres from a number of brigades of the Baodao Commune and agricultural and livestock farms surrounding our institute have also unceasingly "given notice" that within a specified time limit and for a specified section of land, our institute was to cease experimentation and production. Although our institute immediately reported on this situation to the appropriate local leading bodies, nevertheless they did not look upon the matter seriously enough, and did not adopt measures to prevent such occurrences, so that the scientific experimental work of our institute has met with serious damage. As for improved varieties and strains of rubber, our institute, compared to other areas, has been an important experimental site for the selective breeding of new varieties of rubber. After more than 10 years of painstaking cultivation by our researchers, we had already initially selected over a dozen high-yielding strains, and were just about to continue with the identification of good-production and other characteristics. However, during 1978 and 1979 the experimental rubber trees were continuously tapped illegally, and the latex stolen, so that the rubber trees were ruined by too much cutting, and the work of identification had to be cut off mid-way. As for other items of scientific research that were seriously damaged or affected, there were over a dozen experiments such as the analysis of trends in rubber production

and experiments involving biological concepts in the structure of rubber-tree bark. According to our incomplete statistics, the dry latex stolen last year amounted to 11 tons, equivalent to over 60,000 yuan in value; the value of destroyed equipment such as pollination supports and latex cups amounted to over 16,000 yuan.

Under such truly insupportable circumstances, we had no choice but to give a true account of the situation to the newspaper, and ask the newspaper to make an appeal on our behalf. On 9 January, the NANFANG RIBAO published our letter, along with an accompanying investigative report criticizing such illegal actions as destroying scientific research experiments. However, on 12 and 13 January, Li Rixin, secretary of the party branch of the Dashi Brigade adjoining our institute, came repeatedly to the institute in a great rage to track down the author of the letter published by the newspaper and flagrantly interfered with that person's exercise of his proper rights as a citizen. On 14 January, a number of people from the Darong production teams of the Dashi Brigade cut off the road leading to our facility and made off with one of our institute's vehicles. These matters clearly indicate that certain people have definitely not faced up to their past mistakes.

In the first year of the 1980's, which will be characterized by much accomplishment, and is also the year that our country's new penal code goes into effect, we hope that the leaders concerned, and administrative and legal departments at all levels will conscientiously implement the law, adopt resolute measures to prevent this kind of destructive activity and protect order in the work of scientific research so that the work of scientific research can better serve the program of four modernizations. Xiao Yong [5135 305] and Huang You [7806 2580] of the South China Academy of Tropical Crops.

Investigative Report

Beijing GUANGMING RIBAO in Chinese 19 Mar 80 p 2

[Investigative report by Wang Zhongren [3769 1813 0086] and Xu Huaxi [1776 5478 6007]]

[Text] In January, we conducted an investigation into the matter reported in the letter we had received. The investigation proved that the experimental area of the South China Academy of Tropical Crops (hereafter referred to as the Tropical Crops Academy for short) had really been seriously damaged. Of the 38 scientific projects that the nation had assigned to this academy in 1979, 14 had, to one degree or another, been destroyed.

In August 1978 individual cadres from brigades belonging to Baodao Commune in Dan County which adjoins the Tropical Crops Academy, on the pretext

that the Tropical Crops Academy had occupied the peasant's land, ganged up and incited others to participate with them. After obtaining the support of the Commune's leadership, they set up so-called "command posts," instigating several persons to issue reports and ultimatums to the academy, continuously over several days, ordering them to cease all experiments and return the land within a certain limit, even issuing demands such as: "If you don't return the land, we will simply annex you." After these unreasonable demands were refused, a number of production team cadres, bringing others along with them, burst into the experimental area of the Tropical Crops Institute, stole the latex from the experimental rubber trees, smashed up the experimental equipment, and chopped down the experimental shelter-forest. Some team cadres, taking advantage of their position, even told the masses: "If you don't participate in taking the rubber, we won't record your workpoints, and won't issue you any rations." Owing to the instigation and support of these leading cadres, the situation worsened. According to statistics during the period from May to October, 1979, the quantity tapped and stolen by the several communes and brigades adjoining the Tropical Crops Academy was more than 11 tons of dry latex.

Even more serious was the loss to scientific research. The experiment analyzing trends in rubber production, for example, had already been in progress for 6 years, and the results were just about to be analyzed and publicized. But since the rubber trees were continuously being tapped and wounded so that the bark ulcerated very seriously, this experiment, which at first had been so promising, had to be abandoned.

And the experiment with high-yielding strains of rubber trees had already been in progress over 10 years; over 10 high-production strains had been selected and they were preparing, following the proper authentication of high yields and other characteristics, to publicize the results. But because the rubber trees had been so seriously damaged, there was no way that the work of authentication could be carried out.

And the reforestation experiment with new varieties of trees in the plantation's shelter-forest--beginning in 1976 the experimental varieties were frequently cut down, most seriously in 1978 and 1979. At present most of the forest area is in an incomplete condition, and in some sections [whole] varieties have been cut down completely.

In addition, the damage received by the precious tropical plant specimens was also very serious. For example, a portion of the fruits from 85 mu of oil palms was stolen, the flowers of the foreign hybrid sisal hemp, which had just blossomed after being cultivated for 10 years, were cut off; 15 coconut trees from 4 countries, improved varieties, that had just been purchased with foreign exchange, were stolen, etc.

In the course of development of the entire affair, several people not only stole latex and stole trees but also engaged in wanton acts of destruction. Originally, the Tropical Crops Academy was extremely strict and exacting

about the work of tapping rubber from the experimental rubber trees and the measures for maintaining them; every 2 days, one cut would be made and no cutting would be done on rainy days. However, many of those engaged in stealing rubber did not bother about whether it was daylight or night, sunny or rainy; when they saw a tree, they tapped it, sometimes in small groups, sometimes several tens of people all together, openly engaging in their act of plunder, without any scruples at all. Some rubber trees were cut once, yet the amount of bark cut away would be more than that depleted by a month of normal tapping; the rubber trees in a number of forest sections had been hacked and pierced by choppers and other tools, with every tree injured; certain of these trees had been hacked with 30 or more slashes, with scars running in every direction and nothing to stop the latex from flowing.

In the more than 20 years that the Tropical Crops Institute has been in existence, the party and the nation have always been concerned for it and valued it highly. In 1960, Zhou Enlai made a personal inspection tour of the institute, and wrote a few words of encouragement entitled "Danzhou Sets Up an Enterprise, Baodao Puta Down Roots," encouraging the technical people to scale the heights in tropical crop science. Over the last few years, the Tropical Crops Academy has not only cultivated well over 300 varieties of tropical plants from 34 countries and areas but, moreover, they have made [some] very big achievements in the scientific research areas of breeding of and high yields in rubber trees, progressively developing into our country's largest-scale base for scientific research in tropical crop science.

When a scientific research facility was so seriously damaged, the local authorities concerned should originally have given a high level of importance to the matter, and adopted resolute measures to prevent such happenings. However, from 1978 until the present, destructive incidents have been occurring one after the other. Of all those who took the lead in causing trouble, and those cadres who condoned the troublemaking, not one has received any punishment at all and, moreover, the destructive activities are becoming more and more serious. From 1-8 January this year, during the period of our investigation, another nearly 300 trees from the Tropical Crops Academy experimental shelter-forest were cut down and stolen. Now that the rubber collecting season is approaching, people are worried about whether this stealing of rubber and destruction of scientific research experiments can be prevented or not. As it seems, the problem has already reached the stage where it demands a solution. It is hoped that the local departments concerned will deal with the situation as a whole, adopt measures and, strictly applying law and discipline, check this unhealthy tendency and protect the undertakings of the nation's scientific research.

9634

CSO: 4007

PRC SETS UP AGRICULTURAL AIR TEAM

OWO40750 Beijing XINHUA in English 0721 GMT 4 Jun 80

[Text] Beijing, 4 Jun (XINHUA)--China's first agricultural air service, for crop-dusting and scattering seeds and fertilizers, has just been established by the Third Ministry of Machine Building, the ministry announced today.

A spokesman said the new team, which has borrowed its pilots from the air force, is based in Harbin, northeast China.

It includes 12 China-built monoplanes, called "Yun-11," which can take off from and land on any small country airstrip with a 300-metre runway.

Chen Baoqi, who supervises the work of the team, said the aircraft had put out a forest fire in Anhui Province, east China, before the team was formally set up last month.

Aid-agriculture flights used to be done by the air force and the civil aviation service, he said.

"We have received many requests for our services from farmers and forestry workers in different parts of the country," Chen said.

"Starting in mid-June, the team will spread forage grass seeds in Inner Mongolia and spray insecticides over the forests in Jilin Province, northeast China."

Chen also said his team would be "expanded each year" and new bases would be set up in other parts of the country.

The team has recruited 80 permanent ground crew members but no pilots. "For the moment, the pilots are sent by the air force," Chen said, "but we are going to train our own flyers."

CSO: 4020

UNDERSTANDING, POPULARIZING HYBRID RICE PUSHED

Beijing GUANGMING RIBAO in Chinese 20 Mar 80 p 2

[Article by Li Rungzhou [2621 3310 3166], Xu Weichun [1776 4850 2504], Xu Jiansheng [5171 1696 3932], Liu Tongbao [0491 0681 1405], and Zhang Chenglin [1728 2052 2651]: "Need to Properly Understand and Popularize Hybrid Rice. A Look at Increased Yields and the Future of Hybrid Rice From the Experiences of Jianhu County"]

[Text] Recently we have heard some discussion about hybrid rice. Some people say, "If a great leap in agriculture is what you want, then plant a lot of hybrid rice." Others say, "Plant more hybrid rice and output will fall." Just what increases in yields have there been, and what is the future of hybrid rice? To find out, we conducted a survey in Jianhu County in Jiangsu Province.

Jianhu County, located north of the Yangtze River, has historically been a grain-producing area, but yields of paddy rice have fluctuated at around 700 jin per mu in the past. In a quest for higher yields, this county introduced hybrid rice to 1.3 mu of land in 1976, and harvested 1,100 jin per mu. The following year, the experimental area was enlarged to more than 3,000 mu, and despite typhoon damage, yields per mu averaged 860 jin, about 200 jin more than the per mu yields of ordinary rice for that year. In 1978, they summarized experiences and made a rational layout of planting, expanding hybrid rice to 250,000 mu throughout the county and harvesting yields averaging 970 jin per mu. Last year the area to which hybrid rice was expanded throughout the county totaled 450,000 mu. Growth of hybrid rice surpassed that of previous years, and although some impairment resulted late in the season as a result of low temperatures, with average yields per mu amounting to only 918 jin, this was still 194 jin more per mu, on average, than the yield from ordinary rice for that year. The masses said it was fortunate that hybrid rice had been planted so that increased yields had been possible even in a year of calamity.

Four years of experience brought the cadres and masses of Jianhu County to the realization that hybrid rice was not only quite superior, but that it was quite adaptable in its spread over large areas. However, hybrid rice, like every other variety, has both strong and weak points. They felt that the

shortcomings of hybrid rice were that the growth period for some combinations was too long, resistance to disease was poor, the fruition rate was low, and it was sensitive to temperature. To give attention only to getting the most out of the strong points, while paying no attention to overcoming the weak points would risk major drops in output. For example, last year the maximum yields of hybrid rice in Jianhu County amounted to 1,586 jin per mu, and the minimum was only 542 jin. As the masses say, sometimes hybrid rice can make you happy, and sometimes it makes you sigh.

How can hybrid rice's shortcomings be overcome while its advantages are exploited? After numerous discussions, the cadres and masses of Jianhu County concluded, first of all, that a new combination with fewer shortcomings could be selected, and that this combination should be test-planted on only a small area at the outset; popularization over a wide area would not do at first. Second was investment of time and energy on cultivation techniques in order to play up advantages and avoid disadvantages, exploiting the strong points and overcoming the weak points. During the past several years, they have followed this latter road. In light of the short frost-free period locally and the tendency of hybrid rice to be easily harmed by low temperatures, they adopted a series of cultivation methods fitted to the laws of growth of hybrid rice. They moved the sowing time ahead by a suitable amount and instituted early sowing, early transplanting, early heading, and early maturing. In addition, they strengthened fertilizer and water care, and adopted reasonably close planting measures. In this way they both exploited the strong points of hybrid rice and overcame its weak points. Last year, Jianhu County planted 270,000 mu of late crop hybrid, most of which ripened in mid and late September, and since it was able to bear low temperatures, high output was obtained.

Still another weakness of some hybrid rice combinations is poor resistance to disease. Observations in a portion of the ricefields of Jianhu County in 1978 showed that for hybrid rices with low resistance to diseases and insect pests, infestations of second-generation striped rice borer eggs were three times what they were in conventional ricefields, and serious insect damage to stalks ran from two to four times higher than for conventional rice. Damage done to hybrid rice by third-generation pink rice borers ran 6 to 20 percent, or more than eight times the damage to conventional rice. The amount of second-generation rice thrips per hundred stalks of hybrid rice during the seedling period was more than nine times that for conventional rice, and the number of third- and fourth-generation rice thrips per hundred stalks was more than seven times that for conventional rice. Incidence of sheath and culm blight on hybrid rice was also higher than for conventional rice, and the damage rate vastly exceeded that of conventional rice. Thus, large amounts of insecticides and pesticides had to be used. Some said that hybrid rice is a "crock of chemicals," and there is some basis for this statement.

However, experience in Jianhu County has demonstrated that this "crock of chemicals" can be smashed. After 4 years of exploration by the agricultural technicians, cadres, and masses working together in Jianhu County, comprehensive

prevention and control measures that have shown good results have been found in a combination of "agricultural prevention and control, biological prevention and control, and chemical prevention and control." Results of a general survey of 179 ricefields in 16 communes throughout the county last year show an average decline to 0.25 percent in the number of necrotic stem seedlings, a decline to 0.24 percent in the amount of rice blast, a decline to 2 percent in insect damage to stems; a reduction in damage done by sheath and culm blight, and a decline in incidence of withering leaves.

Over the past 2 years, some people have been apprehensive that hybrid rice seeds might steadily intermingle and regress. Others saw hybrid rice as a "big shot," which when grown for a long period would produce ever-smaller quantities each year. From the experience of Jianhu County, these apprehensions are groundless.

As hybrid rice was popularized over a wide area, the intermingling and regression of seeds became more serious with each passing year. In 1978, the intermingling rate for hybrid seeds in Jianhu County was from 3 to 5 percent; in 1979 it climbed to from 5 to 7 percent. Focusing on this problem, the County CCP Committee organized scientific and technical personnel for a timely purification and rejuvenation of the "three lines" of the pure breed, and also made preliminary improvements to the methods of purification and rejuvenation currently in use within the country. Now more than 100,000 jin of the "three lines" of the pure breed have been purified and rejuvenated throughout the county, which is enough not only to satisfy the needs of the county itself but also to assist other places. They feel that all that is necessary is yearly purification and rejuvenation to avoid the phenomenon of intermingling and regression of seeds.

As for whether or not hybrid rice is a big shot, the masses of Jianhu County reply that it is both big and not big. In 1978, county agricultural units surveyed 76 ricefields where applications of fertilizer per mu averaged 200 dan of grass-mud rotted manure, 8 dan of human excrement, and 60 jin of nitrogenous fertilizer. Yields of conventional rice were 831 jin per mu, while yields of hybrid rice were over 1,040 jin per mu. Owing to the development of the root system of the hybrid rice, however, absorption of the fertilizer in the deep layer of soil was generally greater than for conventional rice. In light of this situation, Jianhu County increased applications of organic fertilizer, such as large plantings of green manure and large return to the fields of stems and stalks, so as to replenish steadily the organic matter in the soil. At the same time, they also organized forces to conduct a general testing of the soil, chemically testing appointed fields, to combine fields being nurtured and those in use.

It may be seen from the experience of Jianhu County that increased yields can be obtained from any superior variety only when certain natural conditions and cultivation conditions are assured; otherwise, declines in production occur. We feel that during this time of popularization of hybrid rice, holds for increased output can be further exploited only by acting realistically, adjusting methods to local conditions, making efforts to exploit advantages and avoid disadvantages, and making the most of strengths and overcoming weaknesses.

BRIEFS

ANHUI RAINY SEASON--Recently the Anhui Provincial Meteorological Observatory analyzed the province's climatic trend and maintained that this year's rainy season may persist until late June or early July. The total precipitation may be more than in previous years. In some places it may exceed 300 mm. Fine weather is not likely before the end of the rainy season. In this connection, the responsible person of the provincial agricultural commission called on all localities to raise their vigilance, make good preparations against floods and hurry the harvest of ripened crops. [OW130626 Hefei Anhui Provincial Service in Mandarin 1100 GMT 12 Jun 80]

ANHUI EMERGENCY CONFERENCE--The Anhui Provincial People's Government called a province-wide emergency telephone conference on the evening of 8 June, calling for efforts to insure a bumper harvest of autumn grain and oil-bearing crops. Vice Governor Meng Fulin attended and spoke at the conference. It was noted that, while summer crops are growing well and the plan for the planting of 11.95 million mu of such spring crops as corn, potato and gaoliang has been fulfilled by over 90 percent, the acreage planted to early rice planned for this year has not been attained. If there is a bumper harvest of autumn crops, it will make up for the shortage in summer crop production and still assure a good harvest for the whole year. The conference called for energetic efforts to grow paddy rice, a major autumn crop which accounted for 55 percent of the province's grain output for the whole of 1979. It also stressed measures to prevent crop diseases and pests. [OW130626 Hefei Anhui Provincial Service in Mandarin 1100 GMT 10 Jun 80]

ANHUI BUMPER RAPESEED HARVEST--Anhui this year has reaped a bumper rapeseed crop. By 4 June the province had already purchased 91.37 million jin, more than half of the target for the year. Qianshan, Taihu, Huoshan, Shucheng, Nanling, Lujiang and Huaining counties have already overfulfilled the year's rapeseed purchase quotas. Because of the speedy production development of its oil-bearing crops, Anhui has raised, beginning from June, the rationed supply of edible oil for urban area people and other nonagricultural population in units below the county level from 40 liang to 50 liang each month. [OW130626 Hefei Anhui Provincial Service in Mandarin 1100 GMT 10 Jun 80]

CSO: 4007

'PROFIT PARTICIPATION' SYSTEM RECEIVED ENTHUSIASTICALLY

Beijing BEIJING RIBAO in Chinese 10 Feb 80 p 1

[Article by Fan Sancheng [5400 0005 2052] and Ren Zhichi [0117 4460 6688]:
'Municipal Joint Farming, Industrial, and Commercial Enterprises Show
61-Percent Increase in Profits Over Last Year With Implementation of 'Profit
Participation' in Enterprises and Implementation of 'Four Fixes and One
Reward' for Employees']

[Text] Institution by state enterprises subordinate to the Municipal
Changcheng Joint Farming, Industrial, and Commercial Enterprise of the method
of "participation in profits, with excess production being retained," plus
general implementation of a "four fixes and one reward" system of responsi-
bility for production within each enterprise, has greatly aroused the
enthusiasm of the enterprises and their employees and has spurred production.
Last year's profits were 61 percent higher than in 1978, and showed a
30-fold growth over 1976.

Units belonging to the Municipal Joint Farming, Industrial, and Commercial
Enterprise comprised 16 suburban farms and 5 milk, industrial, construction,
fodder, and farm equipment companies. In order to change the former manage-
ment method whereby "everyone ate out of a common pot" regardless of his
contribution to it, with disbursements being made on the basis of egalitar-
ianism, and with each unit's production being managed to death, a management
method guaranteed to last for 3 years was instituted in subordinate state-
owned enterprises; this method is "profit participation, with production
in excess of quotas being retained." This method made each enterprise the
master in its own house, with authority to arrange production on the basis
of existing realities in order to arouse enthusiasm for the operation of
each enterprise. They fastened their attention on business management,
broadened avenues of production, increased income, and economized on dis-
bursements, and in the very year in which profit sharing was instituted,
profits increased 8.2 times over those of 1976. By last year, the number
of farms operating at a deficit had declined from the original seven to
three, and the profits from other farms also rose greatly. Of these, the
Nanjiao farm's profits increased from 800,000 yuan in 1976 to 7 million
yuan last year. Profits at the Shuangqiao farm rose from 130,000 yuan to
1.86 million yuan.

Proceeding from this foundation of profit sharing instituted in its state-owned enterprises, this enterprise in 1978 began trial operation of a system of production responsibility of "fixed labor, fixed output, fixed expenses, fixed income, and rewards for production in excess of quotas." This was extended last year to the 16 farms and to 1 company, where it aroused the enthusiasm of employees. Each of the cattle farms instituted a method whereby cattle feed was supplied proportionate with the rewards for production of milk in excess of quotas. This caused last year's milk production to increase by 8 million jin over the previous year, with profits (including adjusted price portions) increasing by 3.6 million yuan. Growth also took place in the raising of hogs and the raising of fish.

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CSO: 4007

BRIEFS

FUJIAN AGRICULTURAL TECHNICIANS--At present, 13,900 agricultural cadres have been trained for the counties, communes and brigades throughout Fujian. These cadres include 102 county agricultural bureau directors and commune party committee secretaries. At the same time, the communes and brigades have also trained 324,000 peasant technicians, strengthening the popularization of the new achievements in agricultural science and technology. Training of these cadres began in 1979. There are now 26 counties throughout the province with fixed training institutes. [HK120956 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 9 Jun 80]

RICE CONFERENCE--Recently, the Fujian Agricultural Bureau held a conference in Chongan County on single-cropping rice production. In 1979, the areas sown to single-cropping intermediate and late rice accounted for one-fifth of the areas sown to grain throughout Fujian. The participants pointed out that it is necessary to strengthen leadership over the production of single-cropping intermediate and late rice, strive to increase the unit output of the single-cropping rice, popularize the fine seed strains of hybrid rice, open up more resources of manure and prevent insect pests. They said that it is also necessary to conduct farmland capital construction with the transformation of rivers and soil, open up channels for draining floods and irrigation and popularize scientific farming. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 6 Jun 80 HK]

AREA DEVELOPS CASH CROPS--Fuzhou, 2 Jun--Fujian has successively built 58 cash crop bases by fully utilizing the rich local natural resources. In 1979, the province reaped bumper harvests of sugarcane, tea, fruit and tobacco. During the 1979-80 sugarcane pressing season, the province produced 370,000 dun of sugar, against 150,000 dun 4 years ago. In 1979, the province had 1.5 million mu of tea plantations, producing 456,000 dan of tea, gathered in 2.47 million dan of fruit from 1.19 million mu of orchard, and produced 350,000 dan of tobacco. [OWO50111 Beijing XINHUA Domestic Service in Chinese 0325 GMT 2 Jun 80]

CSO: 4007

GANSU

BRIEFS

GANSU AGRICULTURAL COMMITTEE'S CIRCULAR--The Gansu Provincial Agricultural Committee, the Provincial Scientific and Technological Committee and the Provincial Agricultural Bureau recently issued a joint circular calling for efforts to collect more new farm crop varieties throughout the province. This includes the collection of new strains of grain crops, cash crops, vegetables, fruits and green fertilizer crops. Collectives or individuals who offer new farm crop varieties will be awarded according to quality. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 6 Jun 80 SK]

CSO: 4007

PREPARATIONS UNDERWAY FOR SPRING FARMING IN PROVINCE

Foshan Prefecture

Guangzhou NANFANG RIBAO in Chinese 27 Feb 80 p 1

[Article by Wu Jiongwei [0702 3518 5588] and Feng Chengbang [7458 3397 1620]: "Preparations for Farming and Spring Plowing Solidly Launched in Foshan Prefecture. Strengthening of Leadership and Implementation of Measures"]

[Text] In these first spring days of the decade of the 1980's, Foshan Prefecture, from its vast fields of silt to its hilly regions, and from its diked fields to its economic crop areas, is everywhere a bustling scene of busy spring farming. According to statistics on 25 February, the prefecture has accumulated more than 303 million dan of fertilizer of various kinds--an average of 40 dan per mu of paddy fields. Mud fertilizer has been applied to 1.15 million mu of paddy fields, an increase of 200,000 mu over the same period last year. More than 39 million jin of seeds have been chemically treated for planting, and this amounts to more than 30 percent of plan; water has been released to almost 20 percent of the paddy fields in preparation for planting. Additionally, 56,000 mu of sugarcane and peanuts have been planted throughout the prefecture, and 15,000 mu of forests have been planted.

In the course of this year's preparation for farming and spring plowing, every echelon of the Foshan Prefecture CCP Committee has effectively strengthened leadership. Prior to the lunar new year, the Foshan Prefecture CCP Committee diligently analyzed the situation in preparation for farming and spring plowing throughout the prefecture for the period just past in order to discover imbalances in development among counties and communes. Then the Prefectural CCP Committee and the principal comrades in charge in provincial administrative offices went in groups to some of the counties and communes where preparations for plowing and production were progressing rather slowly. Together with the local cadre and masses, they studied methods for getting on with doing a good job of spring farming and production so that these counties and communes would take a rather striking turn for the better in their spring farming preparations. Just prior to the lunar new year, every region in the prefecture convened county tri-level

cadre meetings or "model worker meetings" to give great emphasis to this year's preparations for plowing and production. Each county summarized the lessons of experience of last year's agricultural production, energetically commended a group of advanced units or individuals, mustered positive factors in every aspect, and brought them to bear in a timely fashion for a great effort in spring farming and production. In light of new problems arising in the organization of preparations for farming and spring plowing and production, each echelon of the CCP Committee adopted timely measures to provide solutions. Because of the intrusion at the end of last month of very cold air from the north, which persisted for a long time, the growth of seedlings that had been sown early was adversely affected, as was the growth of some economic crops. Each echelon of the CCP committee in Shunde, Nanhai, and Zhongshan counties, where economic crops are centered, took timely measures to do a good job in dealing with the adversity and to work after the adversity for the revival of production.

In organizing preparations for farming and spring plowing, each echelon of the CCP Committee in Foshan Prefecture gave attention to improving the scientific and technical knowledge of agriculture of leadership cadres at all echelons. The Prefectural CCP Committee ran two agricultural knowledge training classes attended by a total of more than 90 people. Xinhui County's CCP Committee organized commune and brigade cadres to study the protection of rice seedling propagation from the cold and to acquire scientific agricultural knowledge about the propagation of sturdy seedlings. As of 15 February, more than 4,850 people throughout the county had received training.

Other Sectors of Guangdong

Guangzhou NANFANG RIBAO in Chinese 27 Feb 80 p 1

[Article by Situ Zhuoyao [0674 1778 0587 1031] and Huang Jingtang [7806 6975 2768]: "Take Active Initiatives To Support Spring Farming and Production. Units Supplying Agricultural Goods and Materials in Each Prefecture of Our Province Make Timely Transfers of Goods and Materials in Support of Agriculture"]

[Text] In order to assure that production of an early crop will show new and across-the-board increases this year in our province, agricultural production materials supply units everywhere in our province have been more active this year than last in taking the initiative to support preparatory activities for spring farming. As of January, 70 percent of the required fertilizer was on hand throughout the province; stocks of chemical insecticides and pesticides were plentiful and the supply unrestricted; spraying apparatus had increased almost twofold, and the amounts of plastic sheeting, medium and small farm implements, and various farm supply commodities were also rather plentiful. Currently, various farm supply commodities are being steadily shipped to the front lines of spring farming and production.

This year, the superior "Guichao" variety of early crop paddy rice has been extended to a large area. In order to do a good job of propagating seedlings and protecting them from the cold, farm materials supply units everywhere made ready and supplied, in plenty of time, large amounts of plastic sheeting used in the propagation of seedlings. The Shaoguan Prefectural Agricultural Production Materials Company began as early as April of last year to organize the distribution of plastic sheeting for seedling propagation. Recently the weather in the mountainous areas of northern Guangdong turned cold; additionally, the provincial people's government temporarily reduced the cost of plastic sheeting for propagation of seedlings. As a result a phenomenal increase in sales of plastic sheeting resulted, with each county hastily demanding increases in its planned supplies. Because of this situation, they made early contact with the manufacturing plants and organized supply. As of the end of January, the supply of plastic sheeting for the propagation of seedlings amounted to more than 1,800 tons for the entire province, which is a 50-percent increase over the same period last year. Because the preparation of goods for dealing with the spring chill was done quite well, smooth progress in spring farm work could be assured.

Along with the popularization of agricultural science and technology, numerous rural village communes and brigades have given increased attention to the scientific use of fertilizer and the rational use of nitrogenous, phosphate, and potassium fertilizers. In view of this, agricultural materials supply units throughout the province gave special attention this year to the stocking of fertilizers in addition to nitrogenous fertilizer when they were preparing their fertilizer stocks. Last year, experiments conducted by some prefectural and county communes and brigades in the broader use of potassium fertilizer produced very good results in increased yields. This year the Provincial Agricultural Supply Company has especially prepared 40,000 tons of potassium fertilizer for supply to various places--double last year's quantity. This phosphorous fertilizer arrived before the lunar new year. Employees of provincial as well as prefectural and county agricultural materials units broke with custom; instead of taking a lunar new year vacation, they coordinated with the transportation units to do a good job of receiving the shipments. Basic-level supply cooperatives everywhere further improved service, reduced intermediate links, and sent the stocks directly forward to accommodate purchases by communes and brigades.

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CSO: 4007

WIND, HAIL CAUSE CROP DAMAGE IN MEIXIAN PREFECTURE

Guangzhou NANFANG RIBAO in Chinese 11 Mar 80 p 2

[Article: "Meixian Prefectural CCP Committee Leadership Cadres and Leadership Cadres from Xingning and Mei Counties Go to Hailstone-Stricken Communes and Brigades To Help Masses Put Their Lives in Order and Do a Good Job of Spring Planting"]

[Text] The Meixian Prefectural CCP Committee and county and municipal CCP committees from areas struck by hailstones have plunged into the disaster areas to work together with local cadres to put the lives of the masses in order, to launch production and disaster relief work, to waste no time in doing a good job of spring production, and to set to rights the damage caused by the disaster.

On the afternoon of 4 March, Meixian Prefecture was struck by violent winds, torrential rains, and hailstones. According to statistics, 45 communes and 493 brigades throughout the prefecture were struck. Hardest hit were Huanghuai, Logang, Xiafeng, Guanzhuang, Huangpo, Daoing, and Wutian communes in Xingning County, and Shikeng and Meixi communes in Mei County. Throughout the prefecture, more than 100,000 mu of crops of various kinds sustained damage, and 33,752 houses were damaged, with 654 of them collapsing and two people killed.

Following the disaster, leaders and members of the Meixian Prefectural CCP Committee immediately went into the severely stricken areas to personally comfort the cadres and masses who had been hit. On the 6th, the Prefectural CCP Committee also convened an emergency meeting in Xingning County comprising pertinent units from agriculture, finance and trade, water and electric power, supply and marketing, civil government, and education, assigning them disaster relief tasks. The Prefectural CCP Committee and the county CCP committees of Xingning and Mei counties allocated grain to help the seriously stricken masses put their lives back in order and to supplement seeds needed for planting of grain. Medical units from the prefecture and from Xingning and Mei counties also dispatched medical teams to care for those commune members who had sustained injuries in the disaster

areas. Principal leadership comrades from the County CCP Committee of Xingning and of Mei County also visited stricken communes very early on the morning of the 5th to study disaster relief work together with commune cadres, and to organize some cadres to go to severely stricken areas to help launch production and disaster relief work.

Under the leadership and solicitude of party organizations at all echelons, the cadres and masses in stricken areas enhanced their confidence in triumphing over the natural disaster, and work to restore production is being carried out urgently. Within 3 days, stricken communes in Mei County had drained away floodwaters on more than 33,000 mu of cropland, had taken steps to clear away the mud and to preserve the seedlings, and had made supplementary reseedling of more than 170,000 mu of grain.

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CSO: 4007

COMPLETION OF SPRING SUGARCANE PLANTING IN GUANGDONG URGED

Commentary Urges Production

Guangzhou NANFANG RIBAO in Chinese 17 Mar 80 p 1

[Text] The planting of sugarcane is currently a pressing task in the rural villages of our provinces, and we must carry out this task without fail.

Suixi County has implemented the sugarcane linked-output system of responsibility over a wide area, has aroused the enthusiasm of the masses, and has already completed plans for planting. Furthermore, the planted area has been enlarged to more than 10,000 mu. Jiepany County has diligently implemented policies, and enthusiasm on the part of commune members for the planting of sugarcane is at a high tide. Plantings of sugarcane throughout the country have been expanded by more than 7,000 mu. At the moment, this county is using every opportunity to make concerted efforts to rush planting in an effort to complete planting plans. We hope that all areas throughout the province, particularly the major sugarcane-producing areas, will learn from them, increase their understanding, strengthen their confidence, enhance leadership, and devote great attention to the planting of sugarcane.

Everyone knows that sugarcane production in our province occupies a decisive position nationwide. The more sugarcane grown, the more sugar produced. This is the bounden duty of the farmers of Guangdong. We must strive to complete and to exceed the sugarcane-growing tasks handed down by the state, to improve output per unit of area, and to make new breakthroughs in the production of sugarcane. Only slightly more than 2 weeks remain until "Qingming," so the planting season is extremely critical. However, as a result of incomplete implementation of policies, plus drought conditions in some prefectures, there is a shortage of sugarcane seedlings for planting, and the progress of sugarcane planting has been slow. According to recent statistics from units concerned, spring planting of sugarcane has been carried out on only about half the planned area. Unless serious attention is paid to the problem, there is danger that the season will be missed and plans for planting will not be fulfilled. This problem should arouse the serious attention of all levels of leadership in sugarcane-growing areas. It is a problem that certainly may not be treated lightly.

The Crux of a good job in sugarcane production lies in the strengthening of ideological and political work, the implementation of party policies, and the complete mustering of the enthusiasm of the masses for the growing of sugarcane. Numerous farmers in Jieyang County had the idea that sugarcane planting was a "loser," and they didn't want to grow much of it. Subsequently, the County CCP Committee diligently studied existing problems in the production of sugarcane and decided to disburse from local public finances the sum of 50,000 yuan to help production teams in fairly difficult straits to grow sugarcane. They also transferred more than a ton of sugarcane seedlings from sugarcane plants and from major sugarcane-producing areas to help bring about an immediate upsurge in the enthusiasm of other communes and among the masses for the growing of sugarcane. It may be seen that only by strengthening actual leadership and bringing into full play the authority of the government can a rapid change be effected in a passive situation where there is slow progress in the growing of sugarcane.

Of course, in order to grow sugarcane there must be vigorous cooperation by the units concerned. At the present time, numerous difficulties still exist for farmers in some prefectures in the cutting and transportation of sugarcane, and they have complaints against the way some sugar plants are run and against the style of management. They say they "get pushed around in the cutting and hauling of sugarcane." We hope that labor exchange units and finance and trade units will coordinate closely with the sugar plants, cooperate in doing a good job of supplying sugarcane seedlings and fertilizers to sugarcane-producing regions and be as accommodating as possible in the cutting and hauling of sugarcane, so as to work together to increase this year's sugarcane output.

Suixi County Completes Task

Guangzhou NANFANG RIBAO in Chinese 17 Mar 80 p 1

[Text] Suixi County, the most important sugarcane-producing area in our province, this year has instituted the sugarcane linked-output system of responsibility, has used policies to arouse the enthusiasm of the masses, and is persevering in efforts to overcome drought and rush planting. As of 13 March, this year's spring planting tasks for sugarcane had been entirely completed throughout the country, with new plantings of sugarcane on more than 76,000 mu. When taken together with the more than 141,000 mu of perennial root sugarcane this amounts to a total area increase since the same period last year of more than 16,000 mu.

Suixi County has had no soaking rain since the middle of last September. Nevertheless, sugarcane output has proceeded more rapidly than last year, the principal reason being that the broad masses of farmers have had a taste of the goodness of the government policies. Last year, more than 160 production teams in this country instituted the sugarcane linked-output system of responsibility and scored increase across the board, with commune members' income rising sharply. One household received more than 100 yuan as a reward for being highest in overfulfilling production quotas, with

lesser awards of 90 yuan going to others. This year a further liberation of thought has taken place in this county, from the leaders to the masses, with severalfold increases over last year by production teams throughout the country who had instituted the sugarcane linked-output system of responsibility, further arousal of the enthusiasm of the masses, and further development of sugarcane production. During the prolonged drought, commune members unfailingly carried water to stave off drought, and they rushed the planting of sugarcane. Sugarcane production by the Beipo Commune had formerly been rather low, with little of it being grown. Last year, the Puhou production team in that commune instituted the sugarcane linked-output system of responsibility on its 30 mu of sugarcane, producing average yields of 4.3 tons per mu, with each household getting average distributions of more than 100 yuan for production in excess of quotas. The commune CCP Committee summarized and spread the experiences of this team, so that commune members this year insistently demanded increased planting of sugarcane, with all teams instituting the sugarcane linked-output system of responsibility and the entire commune exceeding its sugarcane-growing quota by 100 percent.

Jieyang County Proceeds Rapidly

Guangzhou NANFANG RIBAO in Chinese 17 Mar 80 p 1

[Article by Chen Yansheng [7115 3601 3932] and Huang Qiuchi [7806 4428 3069]]

[Text] Jieyang County has conscientiously implemented pertinent policies for sugarcane production and, in the course of paying attention to grain production, has mustered the masses for a great effort at growing sugarcane. This year more than 45,000 mu of sugarcane is planned countywide--an increase of more than 7,000 mu over last year. As of 11 March, more than 38,000 mu of sugarcane had been planted throughout the county.

Sugarcane is a staple crop of Jieyang County, and the Jieyang Sugar Plant is the largest of 10 sugar plants in our province. The entire county annually refines about 20,000 tons of sugar, and annual income from taxes for sugar throughout the county is about 10 million yuan, or more than 40 percent of the income from public finance in the region. During the past several years, as a result of poor implementation of policies pertaining to sugarcane production, the enthusiasm of production teams and commune members for growing sugarcane was impaired and a gradual decline occurred in the area planted in sugarcane. In order to boost sugarcane production, the Jieyang County CCP Committee at the beginning of this year vigorously propagandized the advantages of increased planting of sugarcane for the country, the collective, and individuals. It also summarized and spread the experiences of Baita Commune and of the Longpu Brigade of Quxi Commune. At the same time, it implemented pertinent purchasing policies and policies regarding rewards and sales. As a result, each commune and brigade used every means to expand growth of sugarcane in addition to its responsibility for an assured area for grain production. The cane-planting plan issued to the Baita Commune called for 4,500 mu, but as a result of the high enthusiasm for greater growth of sugarcane on the part of both the collective and individuals, it was decided to plant an additional 500 mu. Now the commune is growing more than 4,700 mu of sugarcane.

By way of assuring fulfillment of plans for sugarcane planting, the Jieyang County CCP Committee and the County Revolutionary Committee have effectively strengthened leadership, transferring nine cadres from the county Agriculture, Forestry, and Water Office, the Agricultural Bureau, the Finance and Tax Bureau, and a sugar plant to organize a task force to go into sugarcane-producing areas to help the commune party committees do a good job of instigating ideological work. They have also formulated sugarcane production programs and popularized technical measures to increase production. Sugar plants and sugarcane production areas throughout the county have moved more than 1,000 tons of sugarcane seedlings to help other communes. The county has also disbursed 50,000 yuan to help some production teams that have been experiencing difficulties to solve their needs for funds for the purchase of sugarcane seedlings.

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CSO: 4007

GUANGDONG SPRING AFFORESTATION ACTIVITIES PROGRESSING WELL

Guangzhou NANFANG RIBAO in Chinese 31 Mar 80 p 1

[Article by Chen Jinglie [7115 2529 3525]: "Fast Action and Good Quality in Spring Season Afforestation in Our Province; Implementation of Policies for Forestry Industry and Promotion of Scientific Afforestation"]

[Text] Since the advent of spring, forestry industry policies have been diligently implemented everywhere in our province with a major effort being made to promote scientific afforestation. Action has been fast and Quality good in the planting of trees for afforestation. As of 20 March, more than 1 million mu has been afforested by hand throughout the province for completion of 62 percent of plan. More than 2.5 million mu have been afforested using aircraft, with the plan being exceeded. At the present time, the masses are everywhere taking opportunity to plant trees and create forests.

In this year's campaign to plant trees to create forests, there is everywhere diligent adherence to the "Forestry Law," implementation of the party's forestry policies, universal establishment of all kinds of systems of responsibility for production in the forestry industry, and a great mustering of mass enthusiasm for building forests and nurturing forests.

At Meihua Commune in Lechang County, where a policy for private use of a mountain by commune members has been implemented and where a system of responsibility for production has been set up, mass zeal for afforestation is very great. As of mid-March the entire commune had afforested more than 7000 mu, exceeding plan by more than 3000 mu. Explicit formulation of "four sided" tree planting for commune members in Foshan Prefecture with all earnings going to commune members has encouraged myriad households plant trees to create forests. As of mid-March, "four sided" tree planting throughout the prefecture numbered more than 3.7 million trees, making it the best in the entire province.

By way of enduring the policy of "ownership to the planters," Yangshan, Lechang, Xinyi, and Lianshan counties have issued certificates of forestry rights to commune members who have built the forests in order to gain the confidence of the people.

In order to assist forest areas develop forestry industry production, each echelon of leadership units is giving attention to helping communes and brigades in forest areas solve practical difficulties. Last year the Provincial People's Government dispensed 30 million jin of paddy in readjustment of grain levels for commune members in forest areas, and it also revived the supplemental issuance of hulled rice for afforestation, seedling propagation, and tending of forests with issuance of more than 16 million jin. In addition to making use of the supplemental grain issue for forest areas, the old forest area of Dapu County also disbursed 200,000 yuan and 460,000 jin of hulled rice to support communes and brigades in the development of forestry industry production. Now the entire county has overfulfilled its afforestation quotas for this year.

In this spring's afforestation work, each area gave attention both to the development of quick growing high yield timber forests and to the planting of shelter forests, economic forests, fuel forests, and to readjustment of forestry production organizations. They also used superior seeds and superior methods, and suited trees to local conditions to increase the survival rate for the trees. Throughout the province this year there was a general promotion of seedling propagation in containers, and as of mid-March more than 53 million seedlings were being propagated in containers for an almost five fold increase over the same period last year. This work has provided a large quantity of sturdy seedlings for afforestation. Taishan County has actively promoted superior quick growing tree varieties, and plans to plant 200,000 mu of wetland pines this year. In order to change from growth of a single kind of tree, Longmen County and Hua County will make a great effort this year to plant white flowered paulownia trees and Yunnan catalpas. On Hainan Island, successful experiences with the "five changes" are being promoted in Qionghai County (change from autumn afforestation to spring afforestation, change from bare root seedlings to seedlings in containers, change from dispersed planting of forests to planting of base forests). These changes were promoted in order to advance afforestation throughout the area. Concurrent with the manual afforestation throughout the province, was the sowing of seeds by aircraft in the prefectures (or cities) of Shaoguan, Shantou, Meixian, Huiyang, Zhanjiang, Foshan, and Shenchuan where large areas were afforested using aircraft to sow the seeds.

Every profession and industry in our province is actively engaged in the spring tree planting with plants and mines, government organizations, and schools all striving to complete their tree planting quotas in accordance with directives from the local units concerned. Every large and medium size city and town has launched mass tree planting, planting of flowers, and planting of grass to do a good job of environmental protection and beautification of the cities. Commander of the broad masses of the Liberation Army in our province have sent personnel to provide material support to local planting of trees for afforestation even while themselves doing a good job of making their own encampments green.

ALLOWING COMMUNES, BRIGADES TO PROCESS WOOD PRODUCTS ADVOCATED

Supplementary Regulations Promulgated

Guangzhou NANFANG RIBAO in Chinese 3 Apr 80 p 1

[Text] The Guangdong Provincial People's Government recently promulgated supplementary regulations on various problems pertaining to the development of commune and brigade enterprises. These affirmed, inter alia, that commune and brigade business enterprises could, within the limits of government policies, process lumber and wood manufactures. This "supplementary regulation" provided that "the development of processing industries and special local products processing industries for agricultural, forestry, livestock raising, sideline and fishing industry products is currently a focal point for the development of commune and brigade industry." As regards the processing of products of the forestry industry and the sale of wood manufactures, the "supplementary regulation" said: "Communes and brigades possessing forest resources should organize production in accordance with plans for various materials. Following approval by the County People's Government, communes and brigades may operate wood processing plants and wood manufactures processing plants. State plan procurement of lumber should contain suitable provisions for communes and brigades in the areas of production to process material, and make finished goods, and semi-finished goods; lumber retained by counties should, to the maximum extent possible, consist of some for processing by communes and brigades; timber not meeting specifications, twigs and branches, and surplus materials left behind in the forest may be processed by communes and brigades. Wooden manufactures produced by commune and brigade enterprises must, when marketed outside the county (or municipality) go through the county (or municipal) planning committee for approval; items sold outside of the province must be approved by the provincial planning committee.

Diversification of Forest Areas Economy

Guangzhou NANFANG RIBAO in Chinese 3 Apr 80 p 1

[Article: "An Important Policy for the Diversification of the Economy of Forest Areas"]

[Text] Respect for the autonomy of communes and brigades operating the forestry industry, permitting commune and brigade enterprises proper use of some timber and timber that does not meet specifications for processing and sale, plus wood manufactures being sold outside the county or outside the province following approval by departments concerned is a very important policy. It correctly takes into consideration the welfare of the state, the collective, and the individual, and it plays an important function in the development of the forestry industry and the diversification of the economy in forest areas. Every commune and brigade in forest areas, and every forestry department and its affiliated units should diligently carry out this policy, and strive to give life to the economy of forest areas.

For a long time timber from the forest areas of our province have been largely transported to plants in the cities for processing, and even some very simple and crude processes have not been done in the places that produced the timber. This has meant a long journey for the raw materials, expenditure of large amounts of manpower, financial resources, and transportation, with leftover materials not being used to the full. Furthermore, much timber in forest areas that does not meet specifications, as well as twigs and branches and much material left behind on the ground through natural selection, might, with proper processing, be of great usefulness; however, since no proper way could be found to get commune and brigade enterprises to process it for use, this wood could not be put to use and it was even left to rot. Now policy stipulates that following permission by county people's governments, communes and brigades with forest resources may operate timber processing plants and wood manufacturing plants, and that arrangements will be made for communes to process, or to turn into finished or semi-finished goods part of the state's planned timber purchases. It also stipulates that timber that does not meet specifications as well as twigs and branches and residue remaining in forest areas may be also processed by commune and brigade enterprises. In this way various kinds of waste may be avoided with advantages in the overall use of wood materials of all kinds and for increases in the wealth of society.

The ruling that communes and brigades may process lumber and wood manufactures and sell wood manufactures outside their territories within the limits set by policy is also beneficial in the development of many kinds of businesses in forest areas, in following the road of integration of forestry, industry, and commerce, and in gradually transforming the unreasonable situation of forest areas solely as producers of raw materials with a one product economy. In this way, there must inevitably be a rapid increase in

the incomes of communes and brigades in forest areas, an increase in the levels of distribution to commune members, an arousal of their enthusiasm for operating forest industries, and the provision of more funds for the building of forest areas to make the forest areas become prosperous with all possible speed. In order to attain these objectives, the Provincial People's Government also promulgated supplemental regulations, which not only required that a portion of the timber purchased for the state plan be left for processing by communes and brigades in its place of production, but also requiring that timber left for counties also be processed to the maximum extent possible by commune and brigade enterprises. All units concerned should diligently carry out these policy rulings, and actively help communes and brigades in forest areas do a good job in the processing of forestry sideline products.

When carrying out these regulations, communes and brigades must pay attention to the preservation of forest resources, and prevent the reckless cutting of timber. Units responsible for considering and approving establishment of processing plants by communes and brigades and the sale elsewhere of their wooden manufactures must strictly perform their duties, both invigorating the economies of forest areas and increasing the production of articles for sale by forest areas, and effectively protecting forest resources so that they may continue to be used in perpetuity in a true spirit of "controlling without killing and invigorating without allowing chaos." They must prohibit unlawful manufactures from circulating in the marketplace. Ringleaders of opportunistic speculators seeking to profit from the deliberate destruction of mountain forests shall be severely dealt with according to the law.

A short time ago, the Party Central Committee and the State Council clearly pointed out in a directive on the launching of tree planting for afforestation that, "so long as there is rational management and use of forest resources in collective forest areas, communes and brigades may, once they have completed their state procurement quotas, sell left over wood, bamboo, and manufactures made from them at a negotiated price." Now the Provincial People's Government has made concrete regulations on the processing of forest products and on their sale. These policies and regulations accord with the benefit of the broad masses and have been heartily welcomed. So long as we unswervingly carry out these policies, a joyous transformation will rapidly take place in the economic outlook of forest areas.

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CSO: 4007

USE OF GENERAL SOIL SURVEY RESULTS ADVOCATED

Guangzhou NANFANG RIBAO in Chinese 7 Apr 80 p 1

[Article by Li Benquan [2621 2609 3123]: "Some Areas in Our Province Apply Results of General Soil Survey to Understand Oil Resources and Clear Way for Increased Agricultural Production"]

[Text] In prefectures of our province where partial general soil surveys have been made, prompt application of survey results to agricultural production has brought striking benefits.

The general soil survey is being conducted by the state in a unified manner. More than 140 brigades in 11 counties of our province were used as test sites for this work last year when more than 300,000 mu of cultivated land were surveyed. The survey will help understand the soil resources of these areas, and clarify the low yield areas and the reasons for low yields. Following the principal of using data while the survey is in progress, these areas used the results of the general survey for the purpose of framing improvements to low yield fields, and developing agricultural production plans, rapidly putting them into effect to clear new ways to increased agricultural yields.

1. Planting according to the soil. When, as a result of the general survey of the soil in the Xinhe Brigade of Xinghua Commune in Fengkai County, it was learned that the water table here is high, that the cold dew wind arrives early, and that soil and water temperatures are low, all of which impair late stage growth of late rice crops, "three changes" were decided upon for last year's late rice crop in the selection of varieties and the way they were planted. First was a change from late sowing to early sowing; second was a change from late maturing varieties; and third was a change to the planting of early maturing intermediate rice in mountain depressions. Following the "three changes," the rice headed and flowered early, thereby avoiding the disadvantageous low soil and water temperatures of the late season and the bad effects of the cold dew wind. The result was a good harvest.

2. Applying fertilizer according to the soil. The Yuqian Brigade of Youtian Commune in Wuhua County was in the habit of never applying lime to

the rice fields, and phosphate fertilizer was also rarely used. As a result of the general soil survey, the high acidity of the soil here and a serious lack of phosphorous in it were discovered. Last year, lime and phosphate fertilizer were promptly applied to the more than 800 mu of wet fields of late crop paddy belonging to the brigade. As a result, average per mu yields of late crop increased by about 40 percent over those of the previous year, and grain output for the entire year exceeded the highest recorded levels.

3. Draining and irrigating according to the soil. As a result of the general survey, the Anshan Brigade of Maba Commune in Qujiang County learned that the local water table was high because its drainage and irrigation system was inadequate. It promptly built ditches to improve drainage and irrigation, and to decrease the water table. Concurrently, it put into effect drainage and irrigation for moisture control, and rational use of fertilizer in field management, with the result that late crop yields increased by 140 jin per mu.

4. Make improvements according to the soil. Applying results of the general soil survey, the Xinhe Brigade of Xinghua Commune in Fengkai County concentrated its labor forces after harvest time last year to perform capital construction in the fields. It combined building of ditches to improve the soil and levelling of the soil; combined building of ditches to drain "five waters" with a separation of drainage and irrigation; and combined maintenance of the drainage and irrigation systems with new construction, to lay the foundation for the building of large areas of farmlands with high and stable yields.

Right now general soil survey work is underway in more than 20 counties through the province.

9432

CSO: 4007

BRIEFS

EARLY-RICE CIRCULAR--On 9 June, the Guangdong Provincial Agricultural Committee issued a circular on tending early rice at the intermediate and late stages and preparations for sowing late rice. The circular revealed that growth of the early rice has improved recently. However, a smaller area has been sown to early rice this year. There have been more natural disasters and quite a number of seedlings have withered. It is necessary to do a good job of irrigation, apply manure scientifically and prevent the harvested crops from decay. The circular pointed out that the season of floods and typhoons has arrived. It is also necessary to try as far as possible to prepare sufficient fertilizer. In areas where grain output is low, it is necessary to plant some dry land crops. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 9 Jun 80 HK]

HAINAN EARLY RICE LOSSES--The Hainan Regional CCP Committee has mobilized the masses to crash sow the dry land crops in order to make up the losses of early rice caused by drought. By the end of May, 510,000 mu of sweet potatoes, maize, alfalfa, soybean and peanuts had been planted throughout the region. This was an increase of 330,000 mu over the corresponding period for 1979. From last winter to early May this year, there was no heavy rain in Hainan for 7 months in succession, causing a shortage of water for transplanting 300,000 mu of seedlings. Some of the early rice withered due to drought. Most of the spring crops could not be planted as well because of a shortage of rain. However, rain fell again in early May throughout the island. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 6 Jun 80 HK]

RURAL INVESTIGATION GROUPS--To bring Guangdong's superiority into play, speed up the development of agricultural production and allow Guangdong's rural areas to become rich as quickly as possible, the Guangdong Provincial CCP Committee sent a number of cadres to the countryside. Forming themselves into 16 investigation groups, they set off for the rural areas in different localities on 9 June. A total of 230 cadres from all fronts and departments of the provincial organs participated in the investigations in the rural areas. Led by the responsible comrades of concerned departments, they went to 16 counties and municipalities in the Hainan administrative region and Zhanjiang, Shantou, Meixian and Huiyang prefectures. They are prepared to spend 1-1/2 to 2 months to carry out investigations and study, assist the local party committees to sum up experiences and search for a feasible way of changing from poor to rich. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 9 Jun 80 HK]

HAINAN AGRICULTURAL FORUM--For 5 to 7 June, the Hainan Science Committee, the Hainan Science Association and the Hainan Agricultural Office jointly held a forum on agricultural science and technology to discuss the issue of how to give play to the superiority of the natural conditions in Hainan. Some 30 persons took part in the forum. The participants pledged to effectively develop rubber, coffee and other economic crops, forestry and animal husbandry while planting rice well. They pointed out that it is also necessary to raise aquatic products in sea water and fresh water. Despite the superior natural conditions, there are also floods, low temperature, rain and drought on the island. They revealed that the island experienced natural disasters for 7 months in succession since last autumn. At present, it is necessary to grasp intermediate and late rice production, prepare seedlings for late autumn crops and complete the harvesting before the arrival of typhoons and rain. Luo Tian, first secretary of the Hainan Regional CCP Committee, and Wei Nanjin, second secretary of the regional CCP committee, attended the forum and spoke. [HK161005 Haikou Hainan Island Service in Mandarin 0330 GMT 11 Jun 80]

GUANGDONG WATER CONSERVANCY COMMITTEE--With the support of all provincial and regional party and government organs and other concerned units in the Zhujiang basin, the Zhujiang Water Conservancy Committee of the Ministry of Water Conservancy has launched its work to develop the resources of and harness the Zhujiang basin. The Zhujiang flows through Yunnan, Guizhou, Guangxi, Guangdong, Hunan and Jiangxi. The total area of the river basin covers some 450,000 square kilometers and the total volume of water in the river basin is second only to the Changjiang in China. Its reserve of water resources is approximately one-twentieth of the total reserves of water resources in China. With the approval of the State Council, the Zhujiang Water Conservancy Committee was formally established on 1 October last year. As soon as it was established, the Zhujiang Water Conservancy Committee has organized technical forces to conduct on-the-spot investigations over large areas in the Zhujiang basin. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 9 Jun 80 HK]

GUANGDONG SPRING TEA--In 1980, 56,200 dan of spring tea were produced in Guangdong. This was an increase of 12 percent over 1979, reaching the highest level ever recorded. In Yingde County, the output of the well-known Yingde tea increased by 25 percent. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 10 Jun 80 HK]

GUANGDONG WATER CONSERVANCY--Leading comrades of the Guangdong Provincial CCP Committee and the Guangdong Provincial People's Government paid serious attention to adopting the proposals of (Mai Yingyi), a veteran water conservancy expert, to fulfill the tasks of reinforcing the Bei river dam within 3 years instead of the original plan of 10 years. At present, construction on some parts of the dam has already begun. The dam is to prevent flooding of the Bei and Xi rivers and to insure the safety of the lives and property of the people in Guangzhou Municipality and Qingyuan, Hua, Nanhai and Sanshui counties. The dam was damaged by serious floods in 1915, causing very ser-

ious losses in Guangzhou. (Mai Yingyi) was the former president of the Guangzhou Technical Institute and has been in retirement for years. He forecast that if there was a rainstorm on the upper reaches of the Bei and Xi rivers, the dam would overflow. [HX061030 Guangzhou Guangdong Provincial Service in Mandarin 1130 GMT 3 Jun 80]

NEW SUGARCANE EXTRACTION EQUIPMENT--A new model, small sugarcane extractor capable of performing diverse functions and suitable for use in crude sugarcane sheds in rural communes and brigades has recently undergone appraisal and has gone into extensive use in Dongwan County. The extractor grinds, pumps, and presses. The machine is of simple design, safe to operate, easy to use, and easy to maintain and repair. When not used for extracting, it may be used to process fodder. This new model small sugarcane extractor was successfully test manufactured through the joint efforts of the Sugarcane Sugar Industry Institute of the Ministry of Light Industry and the Guangzhou Design Institute of the Ministry of Light Industry. It has already undergone experimental use in production for five sugarcane pressing seasons. It can process more than 40 tons of sugarcane daily, which is a one-third increase in capacity over the small extractor presently in use. Proportion of juice derived has increased by from 3 to 4 percent over the small extractor. In the course of a single pressing season, it handles 1.5 million shijin of sugarcane, and by using this new equipment, an additional more than 10,000 jin of sugar can be produced. The quality of the brown sugar cooked off meets product standard requirements. [Text] [Guangzhou NANFANG RIBAO in Chinese 8 Apr 80 p 1] 9432

CSO: 4007

GUANGXI HOLDS CONFERENCE ON RURAL COMMUNE MANAGEMENT

HK130823 Nanning Guangxi Regional Service in Mandarin 1130 GMT 11 Jun 80

[Text] The autonomous regional people's government held a conference on rural commune management in Nanning between 4 and 10 June. The conference laid stress on discussing the questions of setting up and improving the production responsibility systems and tapping new sources to increase production and revenues. It urged all localities to proceed from actual conditions, do a good job of management and insure the all-round development of agriculture so that our rural communes can become well-off within the shortest possible time.

Qin Yingji, secretary of the autonomous regional CCP committee and chairman of the regional people's government, and Xiao Han, secretary of the regional CCP committee and vice chairman of the regional people's government both spoke at the summing-up meeting in the afternoon of 10 June.

At the beginning of the conference, Wei Nimian and (Xu Linchun), responsible persons of the autonomous regional agricultural committee, took turns to relay the guidelines of the national management conference and put forward proposals for their implementation.

The conference held that the production responsibility system is a basic system of management. In strengthening and improving management work, it is necessary to grasp this core and help the production teams set up and improve this system.

The conference summed up the practical experiences of our region. It pointed out: Besides implementing the three types of responsibility systems suggested by the Central Committee, our region has also adopted the following methods:

1. Set up specialized teams and instituted the system of several quotas and one reward.
2. Organize specialized teams, groups, households and individuals to undertake forestry, animal husbandry, sideline production, fishery and apiculture.

3. Assigned responsibility for transforming low-yielding fields to individual laborers, contracted out large tracts of land with fixed output quotas, and allowed the peasants to share a percentage of the increased output.

4. Regarding production teams in mountainous areas which are in material difficulties because their residential areas and fields are scattered, accessibility is inconvenient and the level of production has remained low for a long time, we can adopt flexible measures suited to their special conditions under the prerequisite of maintaining collective ownership of the means of production and unified distribution in the production teams.

The conference stressed that in instituting production responsibility systems, we must proceed from actual conditions, follow the mass line and respect the decision-making right of the production teams. Since concrete conditions vary from place to place, there must be different forms of responsibility system. Within the framework of a county, it is necessary for a brigade to allow its production teams to make their choice according to their own local conditions. It is impermissible to forcibly demand uniformity.

During the conference, comrades from (Shuangqiao) Commune in Wuming County and from Beiliu, Duan and other counties and autonomous counties discussed their methods and experiences in setting up and improving the responsibility system. This was warmly discussed by comrades from various prefectures, municipalities and counties. They held that the experience of (Shuangqiao) Commune in setting up specialized teams to undertake farming, forestry, animal husbandry, sideline production and fishery was fine and said that this experience should be promoted where conditions permit.

The management conference also emphasized the issue of tapping new sources to increase production and revenues. It pointed out: to increase revenues, we must grasp grain and money simultaneously, take measures suited to local conditions and vigorously develop multiple undertakings. All localities must make good use of their natural conditions and rural labor force to actively develop commodity production, especially the production of sugarcane, peanut, tea-oil, tobacco, hemp, tea, fruit, medicinal herbs and other large-quantity backbone products. It is also necessary to restore and promote the production of traditional local and special products. Mountainous areas must raise more cows, horses and sheep.

The conference summed up and publicized the experiences of Wuming County, Fuchuan County, Huanjiang County, Longsheng Autonomous County and (Huangshan) Commune in Mengshan County in developing multiple undertakings and animal husbandry.

CSO: 4007

GUIZHOU

BRIEFS

GUIZHOU FARMWORK CONFERENCE--On 4 June, the Guizhou Provincial CCP Committee held a telephone conference, which called on the cadres and masses throughout the province to do a good job of farmwork. The participants revealed that the situation of purchasing grain and edible oil in summer is better than what was originally planned. However, there are unfavorable factors in the current agricultural production due to low temperature and rain 2 months ago. Some of the seedlings rotted. They pointed out that the grain output in autumn accounts for 90 percent of the whole year's grain output in the province with rice accounting for 70 percent of the autumn grain output. It is therefore necessary to center manpower and material to work hard for 20 days to fulfill the tasks of transplanting rice. In short, the relevant rural economic policy and management of the communes and brigades must be maintained and the main forces must focus on crash reaping and sowing. The leading cadres of the prefectures and counties must go to the first line of crash reaping and sowing to help the basic-level units fulfill these tasks. [HK061044 Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 4 Jun 80]

AGRICULTURAL CIRCULAR--Recently, the Guizhou Provincial People's Government issued a circular on doing a good job of summer procurement of grain and edible oil this year. The circular said that policy on procurement of agricultural and sideline products must remain unchanged. Doing a good job of summer procurement of grain and edible oil is very important to doing a good job of grain and edible oil procurement for the whole year. The people's governments at all levels must strengthen their leadership, educate the cadres and masses to fulfill and overfulfill the state's plans on procurement of grain and edible oil and make still greater contributions to the four modernizations. [Guangzhou Guangdong Provincial Service in Mandarin 2315 GMT 4 Jun 80 HK]

CSO: 4007

HEBEI TAKES MEASURES TO PROMOTE PIG PROCUREMENT

HK100944 Shijiazhuang Hebei Provincial Service in Mandarin 0430 GMT 1 Jun 80

[Excerpts] To protect the enthusiasm of the masses in developing pig breeding and solve the problem of selling pigs to the state which now confronts the peasants, the Hebei Provincial People's Government decided to adopt as of today a number of measures to temporarily reduce pork prices in all urban and rural areas throughout the province. The state will encourage the masses to continue with their efforts to develop pig breeding even if it means that it has to subsidize the masses in buying more pork. Following are the eight principal measures:

1. With the present pig procurement price, the policy of giving pig selling awards and the award-giving criterion remaining unchanged, all urban and rural areas throughout the province will temporarily reduce pork prices between 1 and 2 June. On the basis of the present retail price, the price for 1 jin of pork will be reduced by 0.3 yuan. The loss incurred by this price reduction will be subsidized out of state or local revenue, to encourage local sales in the producing areas. The pork allocation price will also be suitably reduced between June and August.
2. To provide the masses of peasants with more and cheaper pork, production teams in the key pig producing counties may each slaughter one pig and distribute the pork among their members during the busy summer farming season.
3. To encourage the food dealers to expand pork sales by all and every means, levies on pig procurement, on retail sales of pork and on the processing of meat and egg products and lard will be exempted for some time. Ratified sales targets should be assigned to every enterprise and employee and those who overfulfill the targets should be awarded.
4. All urban and rural areas throughout the province must take positive measures and make use of various channels to expand pork sales by all and every means.

5. Vigorously strip off more pigskin and extract more lard to provide raw materials for the light industries and the foodstuff and catering service.
6. To insure the sustained development of pig breeding, all localities throughout the province must mobilize the masses to protect the boars, sows and porkers so as to maintain a steady supply of pigs.
7. Collective catering units should be mobilized to serve more pork. Pork dealers should deliver the meat to the doorstep of the consumers and make things convenient for the people.
8. While making energetic efforts to expand pork sales, all localities throughout the province must vigorously grasp the construction of cold stores. They must strive to complete the construction of these cold stores and put them into operation as soon as possible and produce and store more pork.

CSO: 4007

HEBEI ISSUES INSTRUCTIONS ON SUMMER REAPING, SOWING

HK160915 Shijiazhuang Hebei Provincial Service in Mandarin 0430 GMT 5 Jun 80

[Excerpts] On 4 June, the Hebei Provincial CCP Committee and the Hebei Provincial People's Government issued urgent instructions on conscientiously grasping summer reaping, sowing and crop-tending and striving for an all-round increase in agricultural production in the fall season. The instructions said:

The busy season of summer reaping, sowing and crop-tending is approaching. This is another crucial battle for winning a bumper harvest for the whole year, following the battles to combat drought and protect spring sowing and summer harvesting. All localities must mobilize the masses to go all out, resolutely fight a successful battle of summer reaping, sowing and crop-tending and strive for an all-round increase in agricultural production in the fall season.

First, gather in the summer crops in good time. This year's summer crop harvest has been won through battles against drought, low temperature and other natural disasters. It is the fruit of hard struggle waged by the people of the whole province. We must treasure this fruit and must not lose any grain which is nearly in our hands. In places where wheat has not yet ripened, we must promptly step up the late-stage tending of the crop, guard against hot, arid wind and hailstorms and prevent and control wheat aphids and armyworms.

Second, sow summer-sown crops sufficiently and well without missing the farming season. Doing a good job of summer sowing is the foundation for reaping a bumper autumn harvest. In our province, autumn crops account for about two-thirds of the total annual grain output. Due to the drop in summer crop production this year, it is all the more necessary for us to vigorously strive for a bumper harvest of autumn crops to make up for the loss of summer jobs.

Third, do a good job of tending autumn-harvested crops. The busy season of summer reaping, sowing and crop-tending is also the crucial time for tending grain, cotton, oil-bearing crops and other crops. We must start

the work of tending these crops early and do the work meticulously to promote early blossoming and rapid growth. To do a good job of tending grain crops, it is also necessary for us to properly grasp the tending of cotton, oil-bearing crops and other industrial crops and strive for an all-round production increase in the fall season.

Fourth, the party committees and governments at all levels must regard summer reaping, sowing and crop-tending as the current overriding task in the countryside. All other work must be subordinate to and serve this central task. During the season of summer reaping, sowing and crop-tending, we must stop all unnecessary meetings and concentrate our energy on grasping production. Leaders at all levels must change their work style and go down to the grassroots units. At the same time, they must transfer more cadres to the front line of production to take part in physical labor and help solve problems. It is necessary for us to conscientiously and thoroughly implement the two documents of the Central Committee on agriculture, carry out the various economic policies for the rural areas, adhere to the principle of to each according to his work and establish and improve various systems of responsibility in production. We must closely combine the fruits of collective production with the immediate interests of commune members and fully arouse the enthusiasm of the masses. We must also conscientiously do a good job of summer grain procurement and summer distribution according to the principle of taking the interests of the state, the collective and the individual into account. Plans have already been mapped out by provincial departments concerned and all localities must conscientiously carry them out.

Doing a good job of summer reaping, sowing and crop-tending has an important bearing on gaining an all-round increase in agricultural production this year and on the whole national economy. It is an urgent fighting task facing the party and government bodies, army-men and people of the whole province. All departments concerned must adopt an overall point of view and regard giving support to summer reaping, sowing and crop-tending as their bounden duty. They must strive to do a good job of allocating and supplying the necessary production materials for summer reaping, sowing and crop-tending, increase the production of chemical fertilizers, pesticides and farm machine parts that are in short supply and actively provide electricity for farm use. All government bodies, organizations, army units, factories, mines, enterprises and establishments must organize manpower, material resources and motor vehicles to support summer reaping and sowing. The people of the whole province must be promptly mobilized to do a good job of summer reaping, sowing and crop-tending and win an all-round bumper harvest in agricultural production this year.

CSO: 4007

HEILONGJIANG PROMOTES EARLY-RIPENING CROPS

Beijing GUANGMING RIBAO in Chinese 2 Apr 80 p 1

[Article by Zheng Xiaofeng [6774 4562 2800]: "Surprisingly Increased Yields from Promotion of Early Maturing High Yield Varieties in Heilongjiang Province; Agricultural Experts and Seed Production and Promotion Units Cooperate Closely"]

[Text] Working closely together, farm breeding experts and experts from seed production and seed promotion units in Heilongjiang Province have examined and approved for widespread planting a total of 115 early maturing high yield superior varieties. The area to which the plantings have been extended already amounts to more than 48 million mu, which is 59.1 percent of the total planted area in the entire province. Rate of increased yields has been from 10 to more than 40 percent.

Heilongjiang Province covers a vast area where the frost-free season is short and where cold damage from low temperatures are the principal climatic disasters impairing agricultural production in this province. Both the country and the masses within the province have earnestly hoped that agricultural experts would quickly come up with early maturing high yield varieties of grain crops.

Under the leadership of the leadership units of the party and government of Heilongjiang Province, agricultural specialists in the province plunged into the front line of farm production to analyze and study the various elements involved in damage done to crops by low temperatures and cold. Beginning with the different natural conditions prevailing in the various prefectures throughout the province, and acting in accordance with scientific laws, they proposed concrete measures for the breeding, propagation, and extension over wide areas of early maturing high yield varieties. Soybeans and Heilongjiang's major agricultural product for export, and its cultivation occupies 20 percent of the cultivated land area. The specialists began experimental research with the variable accumulated temperatures during average years for crops throughout the province, and the unstable climatic conditions during the course of a year. From this they discovered the main reason for low soybean yields, and made rational adjustments in the criteria for the maturation period of varieties, going on to breed some medium early

maturing varieties. Following verification in production over an extended area, these varieties were found to be able, when smitten by frost in years of low temperatures with early frost, to draw support from the late maturing of the plant stalks and produce firm full grains without any impairment of quantity or quality of output. Corn is the principal crop of Heilongjiang Province. In the process of breeding new varieties, seed units and experts in Heilongjiang Province summarized the lessons of past experience, started with realities as they exist and selected different varieties for use in different regions to assure consistently high yields for corn and other crops.

In order to triumph over lower temperature and cold damage, and for the sake of the prosperity of the country, the broad masses of agricultural researchers in Heilongjiang Province launched an assault on the seed barrier, and registered breakthroughs with the seeds of some important crops. The single cross variety of corn, "Longdan No 1", which not long ago won a first prize from the Ministry of Agriculture, matures 5 days earlier than the locally predominant variety, and produces average yields per mu of more than 800 jin. The vegetative growth period for paddy rice, "Heigeng No 2", is from 95 to 100 days, and per mu yields are between 600 to 700 jin. "Keza No 12" gaoliang hybrid ripens at the same time as the local early ripening variety, "Dalihong," but its output is greater by more than 20 percent. Others such as "Fengshou No 11," and "Heihe No 3," soybean varieties, "Xinshuguang No 1" wheat, "Dongnong No 111" wheat, and "Longgu No 24," and "Heigu No 1 millet, and "Tianyan Nos. 3 and 4" beets, all of which are new early maturing high yield varieties, possess strong growth characteristics during their seedling periods, withstand low temperatures, and have high resistance.

Thanks to the leadership units in the party and government of Heilongjiang Province, the whole province is now organized into a system that is linked together vertically and joined horizontally from seed research to propagation to extension of cultivation. Everywhere throughout the province seed companies have been established, and there are more than 1,150 superior variety propagation and promotion farms (or stations). Specialists in seed propagation and promotion number more than 4,000. In order to promote prompt use of the early maturing high yield varieties that the experts have bred, a system for testing, evaluating, promoting, and managing of new varieties has been set up throughout the province. In last year alone, 5,583 experiments in planting by dibbling and by sequence were performed on a total of 221 varieties of nine different crops to provide the fullest scientific data about the extension of planting of new varieties throughout the province. Last year seed companies provided 400 million jin of early maturing high yield varieties of seeds province wide to create definite conditions for triumphing over natural calamities and reap bumper harvests regularly.

HENAN PROMOTES AGRICULTURAL MECHANIZATION IN HEAVILY POPULATED PLACES

HK120952 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 10 Jun 80

[Text] Is there any need for heavily populated places to carry out agricultural mechanization? To this question, Wen County, which is one of the more highly mechanized counties in our province, has supplied a good answer with increased agricultural output. In this county, average land per capita is 1.2 mu; and there are also some brigades with only a little more than 1 mu per capita. They have basically achieved mechanization or semimechanization in farming, irrigation and the processing of agricultural and subsidiary products.

Agricultural mechanization has brought about the emancipation of labor and enabled them to develop production in greater depth and breadth. In 1972, only 369 persons or 4.1 percent of the county's total labor force, worked in commune and brigade enterprises. As the degree of agricultural mechanization rose, the number of persons engaged in commune and brigade enterprises increased to 16,645, or 16.8 percent of the total labor force.

In 1979 [figures as heard], the productivity of agricultural labor also has greatly increased. In 1972, each worker only produced 2,600 jin of grain. In 1979, the figure rose to 3,500 jin, an increase of 35.4 percent. Agricultural mechanization has brought about substantial increases in farm output. In 1972, there were 135 large and medium-sized tractors. Seven years later, in 1979, the number increased to 810. Per-mu grain yield also increased from some 400 jin in 1965 to 1,110 jin in 1979.

CSO: 4007

HENAN RIBAO' ON SUMMER HARVEST PREDISTRIBUTION WORK

HK191026 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 16 Jun 80

[Report on HENAN RIBAO commentator's article: "Implement the Policies and Do a Good Job of Summer Harvest Predistribution"--date not given]

[Excerpts] Conscientiously doing a good job of summer harvest predistribution work is of great significance for implementing the party's economic policies for the rural areas, improving various management systems, mobilizing the socialist enthusiasm of the masses of commune members, winning a bumper harvest for the whole year with summer reaping providing an impetus for better work in the fall, promoting the all-round development of agriculture, forestry, animal husbandry, sideline production and fisheries, and making the rural economy flourish.

Last winter and spring, the people of our province fought bravely against serious drought, prolonged cold spells, insect pests and other natural disasters and stepped up the tending of wheat fields. Wheat is coming along fine and the harvest is better than expected. However, there are also great imbalances. In this year's summer harvest predistribution work, we must thoroughly and meticulously conduct investigation and study and do this job well.

Our party has always adhered to the policy of taking the interests of the state, the collective and the individual into account in distributing the income of the people's communes. In this year's summer harvest predistribution work, we must continue to adhere to this principle, proceed from reality, take measures suited to individual brigades and make overall plans and rational arrangements.

Summer harvest predistribution is a very comprehensive task. It is an economic task and a political task all rolled into one. Party committees and people's governments at all levels must effectively strengthen leadership over this work and conscientiously verify output and income. Through summer harvest predistribution, they should analyze economic activities and unfold the movement to increase production, practice economy, increase revenue and

economize on expenditures. All rural cadres must thoroughly understand the dialectical relations between production deciding distribution and distribution promoting production. They must oversee both production and distribution. As long as we conscientiously implement the party's policies, proceed from reality and always follow the mass line, we can definitely do a good job of summer harvest predistribution work.

CSO: 4007

HENAN

BRIEFS

HENAN AGRICULTURAL MACHINERY EXHIBITION--The Henan Agricultural Machinery Management Bureau and the Henan Agricultural Mechanization Research Institute recently held in Zhengzhou an exhibition of agricultural machines and implements with on-the-spot demonstrations. Dai Suli and Qiao Mingfu, secretaries of the Henan Provincial CCP Committee; Cui Guanghua, vice governor of Henan; other leading comrades and responsible comrades of all provincial Committees, offices and bureaus concerned attended the exhibition and watched the on-the-spot demonstrations. They listened to introduction about the functions of different agricultural machines and implements and expressed their warm support and encouragement regarding the achievements scored in research in agricultural mechanization. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 7 Jun 80 HK]

CSO: 4007

BRIEFS

VEGETABLE CONFERENCE--From 2 to 5 June, the Hubei conference on vegetable production was held in Wuhan. The participants demanded that the leadership at all levels adopt effective measures and rapidly promote vegetable production. They pointed out that in future, construction of vegetable bases in the cities, supply points and construction of warehouses must be included in the urban construction plans. In the purchasing and marketing of vegetables, it is necessary to establish and put on a sound basis the system of contracts and make proper readjustment on each dan of vegetables. The vegetable companies must also seriously improve their services and management. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 7 Jun 80 HK]

RURAL ENTERPRISES CONFERENCE--Recently, the Hubei Provincial Commune Enterprise Administrative Bureau held a work conference on management of the commune and brigade enterprise. The participants said to manage the commune and brigade enterprises well, it is necessary to first grasp the building of the leadership groups, promote the strong and experienced cadres who understand technology, professionalism and management to leadership groups and train all the management cadres in the enterprises once within the next 2 years, so as to improve their level of management. It is also necessary to grasp management of the quality of the products of the commune and brigade enterprises in accordance with contracts, establish and put on a sound basis the system of inspecting the quality of products and stop inferior quality products from leaving the factories. [HK120958 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 6 Jun 80]

HUBEI GRAIN, OIL CIRCULAR--Recently, the Hubei People's Government issued a circular on doing a good job of summer grain and oil procurement in 1980. The circular revealed that a good harvest of grain and oil-bearing crops has been reaped this year after overcoming natural disasters. It is necessary to educate the cadres and peasants in the countryside to correctly treat the relations among the state, collectives and individuals, deliver grain and edible oil to the state and strive to fulfill and overfulfill the procurement tasks. The grades of procuring summer grain still follows last year's method. The exchange for summer grain is 100 jin of wheat for 85 jin of rice. In areas where there is summer famine, it is necessary to look after the people's daily life. [HK161005 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 11 Jun 80]

HUBEI COMMODITY FISH BASES--A total of 72,000 mu of commodity fish bases in Hubei have been put into production at the end of May after 2 years of construction. A total of 19.2 million fish of three inches in length have been put into production. There are 245 commodity fish bases in the province. [Wuhan Hubei Provincial Service in Mandarin 8 Jun 80 HK]

CSO: 4007

HUNAN READJUSTS AGRICULTURAL STRUCTURE

HK160152 Changsha Hunan Provincial Service in Mandarin 2315 GMT 15 Jun 80

[Text] Hunan Province has allocated 800 million jin of grain since last year to readjust the peasants' rations and the grain procurement in some areas, to support those areas in bringing their superior features into play and vigorously develop forestry, industrial crops and animal husbandry. The result of this is that the agricultural structure of the whole province has now been initially readjusted, and there has been a marked development in diversification.

For many years grain production in Hunan has risen steadily and developed relatively fast. However, industrial crops and diversification have developed relatively slowly, and their output value does not account for much of the total agricultural output value. The provincial CCP committee has repeatedly stressed in recent years that the province must bring about all-round agricultural development and overcome the trend of single-product economy. Responsible comrades of the provincial CCP committee have often gone down to investigate and study and listen to the views of the commune and brigade cadres and peasants. On the basis of investigation and study, the provincial CCP committee held a meeting of county CCP committee secretaries last autumn, which decided to readjust the structure of agriculture and take advantage of the favorable condition of annual increases in grain output to transfer some grain to support the development of forestry, industrial crops and animal husbandry. This measure taken by the provincial CCP committee has effectively promoted the readjustment of the province's agricultural structure and is having a far-reaching effect on bringing into play the superior features of the different localities and speeding up the entire economic development of the province.

In the past the structure of cotton cultivation in the province was not very rational. In scattered cotton-growing areas in West and South Hunan, average yields of ginned cotton were only about 30 jin per mu, while the average yield around the Dongting Lake was about 100 jin. To bring into play the lake area's superior feature of high cotton yields, after consultations with all sectors, this spring the 300,000 mu of scatter-planted cotton in West

and South Hunan were reassigned to Changde and Yueyang prefectures. Readjustments were also carried out within the prefectures. As a result the concentrated cotton-growing area was increased by some 500,000 mu. The provincial authorities allocated 400 million jin of grain to solve the problem of grain rations for the cotton-growing peasants and of the grain procurement quota in cotton-growing communes and brigades.

This measure adopted by the provincial CCP committee, together with support in investment and material, has effectively mobilized the activism of the peasants for developing forestry, industrial crops and animal husbandry, and speeded up the pace of readjusting the structure of agriculture. In the past the provincial departments concerned worried every year that the cotton sowing plan could not be fulfilled. This year many communes and brigades in the cotton areas demanded to expand the cotton area. As a result, the area of cotton sown in the province has exceeded the plan by 100,000 mu, while tending of the crop has been done better than in the past.

The province carried out afforestation of industrial trees on 1.8 million mu this spring, 40 percent more than last year. The cultivated areas of oranges, tea, ramie, silkworms and sugarcane have been expanded by over 400,000 mu compared with last year. There has also been relatively great development in raising cattle, goats and rabbits.

CSO: 4007

BRIEFS

HUNAN DEVELOPS INDUSTRIAL CROPS--While maintaining a steady increase in grain output, the Hunan Provincial CCP Committee is energetically developing industrial crops and diversifying the economy. As a result, the province has brought into further play the role of its 200 million mu of mountainous land and more than 10 million mu of water area. The measures taken by the committee to develop the province's industrial crops and diversified economy included running marketable grain bases well, appropriately adjusting the uses of agricultural funds, solving the shortage of animal feed, strengthening the leadership over construction in mountainous areas, strengthening scientific and technical personnel and assigning a standing committee member to exclusively handle industrial crops and diversified economy work with the assistance of the prefectural and county secretaries responsible for such work in their respective localities. [OWO50111 Beijing Domestic Service in Mandarin 1200 GMT 31 May 80]

VEGETABLE MEETING--The Hunan Provincial CCP Committee and the Hunan People's Government held a meeting from 29 May to 2 June on the production of vegetables throughout the province. The participants had studied measures to improve the production of vegetables and their supply. The HUNAN RIBAO carried a short commentary on 8 June, which said some comrades in the suburban areas have not properly handled the production of vegetable and grain and failed to put vegetable in the leading position. They have also failed to give priority to the areas sown to vegetables, labor arrangements and funds. Regarding this issue, the party committees in the cities and townships must strengthen their leadership and help the communes and brigades in the suburban areas to pay serious attention to handling the relations between planting vegetables and other work. The commerce departments must support and promote the development of vegetable production and sign contracts with the production teams on vegetable production. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 7 Jun 80 HK]

CSO: 4007

JIANGSU MEETING CALLS FOR EFFORTS TO OVERCOME EXCESSIVE RAIN

OW152020 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 14 Jun 80

[Text] On the evening of 14 June, the provincial party committee and the provincial people's government held a telephone conference, calling on the localities to further, actively mobilize, go all out to overcome a possible spell of continuous rainy weather and make sure that the bumper summer crop is gathered in.

Comrade Zhou Ze, secretary of the provincial party committee and vice governor of Jiangsu Province, presided over the conference and made a speech.

This year's summer crop is better than anticipated. The biggest problem now is whether the bumper crop can be gathered in. There is not much wheat remaining in the province's fields, but most of the wheat that has already been gathered in has not been threshed yet. The wheat that has been threshed has not been dried yet. Recently, because the (rainy season has arrived early), it has been raining continuously, threatening the bumper harvest and already causing losses in some places. Therefore, it is now necessary to overcome the rainy weather and to make sure that the summer crop is completely brought in.

At the conference, a responsible comrade of the provincial agriculture commission reported on Suzhou Prefecture's experience in overcoming natural disasters and achieving a bumper harvest. It has been raining in the prefecture continuously since 10 June, causing great difficulties in summer harvesting.

To make sure that the bumper crop is gathered in, they have adopted three measures:

1. Leading cadres at all levels have gone to the frontline of production and strengthened leadership over summer harvesting. Responsible comrades of prefectural organs, departments, commissions, offices and bureaus have led four work teams to four counties, where harvesting work is heavier, to help with the work. The counties have also dispatched more cadres to the frontline of production to help summer harvesting.

2. Manpower has been concentrated to do a crash job of harvesting and threshing the wheat. The localities have strengthened logistics work. Power and diesel oil are supplied on a priority basis to the rural villages to meet their needs for threshing. Where there is conflict with industrial power requirements, industry will have to temporarily make way.

3. They have mobilized and relied on the masses to take various concrete measures in line with the local conditions. In many places, the people harvest wheat despite the rain and do the threshing and drying indoors to prevent mildew and rot.

The conference held that Suzhou Prefecture's experience was very good and could be used for reference by all localities.

The conference pointed out emphatically: According to forecasts by the meteorological departments, there will be continual rain for the next several days. All localities must become further mobilized, make sure that measures are carried out, mobilize the masses, try in every possible way according to local conditions to overcome the continuous rain and make sure that the bumper summer crop is gathered in.

CSO: 4007

JIANGSU TAKES PRECAUTIONS AGAINST FLOODING

OW152030 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 14 Jun 80

[Text] On 14 June, the provincial flood prevention and drought resistance command called on all localities to pay close attention to the situation that the rainy areas is moving north and to quickly prepare against flood.

This year, the rainy season began on 9 June in areas along the Changjiang River and in the southeastern part of the province, 10 days earlier than normal. At present, the rainy area is slowly moving northward toward the Changjiang and Huaihe River basins. This year's rainy season possibly will be longer, and there likely will be more rainfall than usual, mainly in that Part of the province between the Changjiang and Huaihe rivers.

The provincial flood prevention and drought resistance command called on the localities to do the following:

1. In the (Lixiahe), Tai Hu and other rainy areas, it is necessary to properly lower the (?flood level), taking into consideration the current need for water for transplanting rice seedlings. Preparations for (?strengthening dikes) must be completed step by step. Specific personnel should be assigned to take charge of the work and prepare against the onslaughts of torrential rains.
2. (?Dredging) of the channels from the Huaihe River to Changjiang River must be rushed to completion before the flood season.
3. (?Dams) built to combat drought on drainage canals should be completely inspected once more by the communes and production brigades. Those that have not yet been removed must be removed within a definite time.
4. During the rain season, attention should be paid to retaining the necessary irrigation water in reservoirs and water ponds in the hilly areas, but more important, the water level must not exceed the authorized limits.
5. Seaports along the coast should make use of the flood water and take the opportunity to (?wash out silt and protect harbors).

CSO: 4007

JIANGSU PAPER CALLS FOR EFFICIENT SUMMER DISTRIBUTION

OW191227 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 18 Jun 80

[XINHUA RIBAO 19 June editorial: "Do a Good Job in Summer Distribution; Increase Production, Income and Contributions; and Reduce Production Costs"]

[Excerpts] The editorial says: The summer crops in the province have been basically harvested. Various localities must keep the annual harvest in mind, make overall arrangements, and do a good job in summer distribution so that we can promote production, improve management, implement our policies well, and penetratingly develop the movement to increase production, income and contributions and to reduce production costs.

The editorial emphatically pointed out: To do a good job in summer distribution, basically is to continue to implement the central authorities' two documents on agriculture, and unswervingly carry out the party's policies.

In order to help various localities do a good job in summer distribution, the provincial CCP committee and the provincial people's government have worked out specific rules on grain and oil procurement targets, on the distribution of grain and oil among commune members, on the retention of seed and fodder crops for commune members' own use, and on rational arrangements for, and distribution of, available cash. We must conscientiously study and implement these rules. To implement the principle "to each according to his work" is basic in carrying out the work of summer distribution well.

The editorial points out: We must increase production, income and contributions and reduce production costs by doing a good job in summer distribution. The autumn harvest is the key link for the whole year's agricultural production. We must pay full attention to the autumn harvest, because it is of decisive significance. A great deal can be achieved in industrial and sideline production for the next 6 months. We must persistently carry out the principle of taking grain as the key link and insuring all-round development and the policy of adaption to local conditions and the appropriate concentration of certain crops in certain areas; pay full attention to the autumn harvest; and try one thousand and one ways to fulfill our plans in

increasing grain and cotton production for the whole year. At the same time, we must open all avenues for production and vigorously develop a diversified economy.

The editorial says in conclusion: We have laid a fairly good foundation for summer distribution this year. There are many favorable conditions. Mainly we have reaped a very good summer harvest. New developments have been scored in industrial and sideline production. The party's rural policies have been further implemented. Management over production teams has been improved and strengthened. So long as the leading comrades in various localities pay full attention to the work of summer distribution, make over-all arrangements for production and distribution, fully arouse the broad masses, and bring democracy into full play, we will definitely be able to carry out summer distribution well this year, do a good job in mobilizing cadres and masses to penetratingly develop the mass movement for increased production, income and contributions, reduce production costs, and win an all-round bumper harvest this year.

CSO: 4007

BRIEFS

JIANGSU LAND RECLAMATION--Since the beginning of this year, farm and land reclamation departments in Jiangsu Province have strengthened enterprise management in accordance with the "eight-character principle" for economic readjustment. They have planted 447,000 mu of wheat, overfulfilled the cotton planting plan, developed, diversified the economy and promoted animal husbandry as well as aquatic production. The departments' total output value in the first months of 1980 increased 40 percent over the same period last year. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 7 Jun 80 OW]

FLOOD, DROUGHT PREVENTION--The Jiangsu Provincial People's Government held a provincial meeting on preventing flood and drought in Nanjing from 31 May to 3 June. More than 300 people attended the meeting, which called for greater efforts to combat floods and drought to insure an all-round agricultural bumper harvest. Zhou Ze and Chen Ketian addressed the meeting and laid down general guidelines for flood and drought prevention this year. They called for making full use of the water conservancy projects built over the years and for guaranteeing the safety of important plants, mines, cities and railway lines. [OW130626 Nanjing Jinagsu Provincial Service in Mandarin 2300 GMT 11 Jun 80]

PORK SUPPLY--With the approval of the Jiangsu Provincial People's Government, the provincial commerce and finance bureaus, price control committee, supply-marketing cooperative and the labor bureau on 4 June issued a joint circular on promoting sales of pork and supporting pig raising. The circular put forward a series of solutions for implementing the policies on procurement and marketing of pigs, prices and pig raising. The circular says that the purchase price for pig will remain unchanged, but the retail price of pork will be reduced by 0.15 yuan. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 6 Jun 80 OW]

DOMESTIC ANIMALS, FOWLS--The Jiangsu Provincial People's Government recently held an on-the-spot meeting in Haiyan County on the production of domestic animals and fowls, calling for continuing the development of the province's animal husbandry with emphasis on pig raising, and for stabilizing policies. Reporting the meeting, XINHUA RIBAO on 3 June published an editorial stating that the province's production of animals and fowls has continuously

increased and that, with the emergence of a new situation and new problems, the preservation of the stability of policies is of great importance. The editorial urges resolute implementation of the party's principle and policy for raising animals and fowls, criticizes unscrupulous changes of policies and calls for scientific methods in the production of animals and fowls.
[Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 2 Jun 80 OW]

RICE TRANSPLANTING--Jiangsu has completed transplanting of early rice. A total of 8.98 million mu was transplanted. Seedlings grew relatively slowly this year due to low temperatures. At present, the various localities of the province are stepping up field management to promote their growth.
[Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 154 Jun 80 OW]

SUMMER HARVEST--Nanjing, 12 Jun--Summer harvesting is in full swing in the rural areas of Jiangsu Province. More than 11 million mu of barley and naked barley have been harvested and more than 27 million mu of wheat are being harvested. This year, Yangzhou Prefecture has harvested 150,000 mu of barley and naked barley with a per-mu yield of 512 jin, topping 1979 by 60 jin. Zhenjiang Prefecture has harvested more than 104,000 mu of barley and naked barley with a per-mu yield topping 1979 by more than 40 jin.
[OW151641 Beijing XINHUA Domestic Service in Chinese 1239 GMT 12 Jun 80 OW]

CSO: 4007

BRIEFS

SPECIALIZED JOB GROUPS--Nanchang, 31 May--Since the convocation of the 3d Plenary Session of the 11th CCP Central Committee, more than half the production teams in Yichun Prefecture, Jiangxi Province, have established permanent job groups in various fields. The broad masses of commune members have warmly praised this new measure. The Qianjin production brigade in Shanggao County has a total labor force of 655 men and women. The production brigade was divided into 41 specialized job groups including rice production, wheat production and livestock production groups. In 1979, the total agricultural income of the production brigade went up by 50 percent, forestry income went up by 530 percent, livestock production income rose by 90 percent and sideline income increased by 20 percent. The average per-mu yield of grain exceeded 1,600 jin and the average income of each commune member was 155 yuan. The production brigade has become a rich brigade in the prefecture. [Beijing XINHUA Domestic Service in Chinese 0700 GMT 31 May 80 OW]

CSO: 4007

JILIN

BRIEFS

JILIN FLOOD PREVENTION CONFERENCE--The Jilin Provincial People's Government held a telephone conference on flood prevention on 19 June. Deputy Governor Wang Jiping attended the conference and spoke. He said that based on the data offered by the departments concerned, a rainfall heavier than any of those in previous years is expected in the coming flood season, especially during the period from late July to early August. He urged that all localities be prepared ideologically against a possible flood, carry out a general check on flood-control facilities and stock up material against flood.
[SK200743 Changchun Jilin Provincial Service in Mandarin 2200 GMT 19 Jun 80]

CSO: 4007

NEW CROP STRAINS PROMOTED IN NINGXIA

Beijing GUANGMING RIBAO in Chinese 7 Apr 80 p 2

[Article by Wang Guanghua [3769 1684 5478]: "Ningxia Promotes Some New Crop Varieties"]

[Text] Each echelon of agricultural production units and of seed units of the Ningxia Hui Autonomous Region have decided to promote some agreed upon superior varieties of seeds this year.

Ningxia has a short frost-free period and climate is variable. Regional growth characteristics for farm crops vary greatly from place to place, thus creating different demands for varieties of farm crops. Ever since liberation, agricultural scientists and technicians here have developed or introduced more than 100 different varieties of various crops, bringing about three crops of rice and wheat, and two crops of sesame and millet, making the most of the role of superior varieties in increased output.

Building on its foundation of additional crops from several varieties and following several years of effort, the Farm Crops Research Institute of the Ningxia Agriculture and Forestry Institute successfully bred some new superior varieties. Their selectively bred new breed of paddy rice, Ninggong No 3, matures about 8 days earlier than varieties of rice currently grown over wide areas; it is resistant to lodging; and it tolerates low temperatures. Following local testing with per mu yields on large areas amounting to 1,000 jin, and 1,587 jin on small areas, its cultivation has been extended to some of the counties in the autonomous region. The growth period for the "ningya No 5" new variety sesame developed by this institute for planting in places in Ningxia where the frost-free period is only about 100 days, and it is a variety with an assured harvest. Last year, "Ningya No 5" was a participant in regional experiments conducted at seven places in north China and the northwest in which output was from 20 to 60 percent higher than from varieties currently in use, and from which oil extraction was 41.8 percent higher. The new variety millet, "Ninggu No 1" developed by the Guyuan Prefecture Agricultural Institute is suitable for cultivation in either wet or dry soils in mountain regions. Local experiments for a year showed annual per mu yields of 710 jin with large field per mu yields of between 592 to 649 jin. Recently each echelon of agricultural production units and of seed units have made combined arrangements for the promotion of these new varieties.

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CSO: 4007

'XINHUA' ON WHEAT PRODUCTION; SHAANXI'S MA RENRUI INSPECTS CROPS

OWD91355 Beijing XINHUA Domestic Service in Chinese 1318 GMT 4 Jun 80

[Text] Beijing, 4 Jun--Since wheat did not grow as well this year as it did last year, all provinces in the Huanghe and Huaihe river valleys--our country's major summer grain-growing area--are vigorously grasping the production of autumn grain and launching activities to make autumn grain compensate for the deficiency in summer grain production. The area has now mainly fulfilled the task of sowing early autumn crops in the spring. Summer sowing is now under way.

The Huanghe and Huaihe river valleys not only are major winter wheat-growing areas in our country but also are key autumn grain-growing areas. Their sowing acreage and output of wheat, corn, Chinese sorghum, millet and other miscellaneous autumn food grains constitute more than half of the total national acreage and output of these crops. The area's winter wheat did not grow as well as it did last year because sowing was hampered by natural disasters, especially drought, from the beginning of the sowing season last autumn. Its output might not reach the planned target. Therefore, in order to insure the fulfillment of the annual plan for increasing grain production, all localities attached great importance to autumn grain production, which constitutes two-thirds of their total annual grain output. Not long ago, the Agriculture Ministry held a forum in Hebei's Shijiazhuang Prefecture for major summer grain- and edible oil-producing provinces and some prefectures and counties. The ministry studied the summer production situation and gave instructions on the autumn production tasks. Recently, the state agriculture commission again transmitted the agricultural ministry's "urgent report on grasping autumn grain and edible oil production." The commission called on various localities to take it as a central task in the present rural work to strive for a bumper autumn harvest and to concentrate manpower, material and financial resources to grasp autumn production well.

To strive for increased summer grain output, various localities spared no efforts to tap the potential to increase production and enlarge summer grain-growing areas. According to the preliminary statistics, as of the end of May, Shandong, Henan and Hebei provinces alone have sown nearly 40 million mu of corn. In the spring, Henan Province sowed about 1 million mu more of

early autumn grain than last year; its acreage of summer corn interplanted with wheat also increased by some 4 million mu. In addition, Shandong Province vigorously grasped sweet potato production this year. By promoting Yantai Prefecture's experience in running summer sweet potato seedling nurseries throughout the province, Shandong changed the practice of picking seedlings from existing sweet potato sprouts. It did not influence the output of spring-planted sweet potato, but it did enlarge the summer sweet potato areas. Moreover, Jiangsu's Xuzhou Prefecture launched a prefecture-wide drive to overfulfill the target for the output of autumn-ripening crops. Based on the principle of supplying water as long as it is needed and keeping an area dry as long as it is suitable, the prefecture readjusted autumn-ripening crop-growing areas to suit local conditions. The prefecture's total paddy rice acreage topped that of last year by 1 million mu, and its autumn dry-land grain acreage also increased.

Ma Wenrui, first secretary of the Shaanxi Provincial GCP Committee, together with other leading comrades of the committee, visited drought-stricken Weinan and Baoji counties and Xianyang Prefecture to see the drought conditions. After studying with local cadres and masses, they devised measures to make autumn grain compensate for the deficiency of summer grain and decided that the whole province would concentrate all of its forces to grasp well the production work in 34 grain- and cotton-growing prefectures and counties in the central Shaanxi plain. In an effort to vigorously promote autumn production, many localities adopted various systems of responsibility for production on the basis of many autumn crops being suited for planting in dry land and small and odd pieces of land being fully usable to plant these crops. They adopted measures of fixing production quotas for households or individuals and tried their best to enlarge crop-planting areas and procurement, thereby vigorously mobilizing the enthusiasm of the masses. After the "autumn bumper harvest" activities were launched in many of Hebei's rural areas, commune members' efforts to use scattered plots of unused land increased autumn grain crop acreage by about 700,000 mu.

In order to fight the war of autumn production well, the concerned departments in various localities vigorously rendered material, financial and technical support. The Shaanxi Provincial People's Government has appropriated about 13 million yuan of autumn disaster-combating funds for various localities and has delivered about 300,000 dun of chemical fertilizer to grassroots units. In addition, the province has sunk some 2,500 new motor-pumped wells, built approximately 3,000 small-sized water conservancy projects and enlarged the acreage of irrigated land by about 5 million mu. Many localities held forums for agrotechnical cadres and model workers before and after the spring and autumn sowing to change the habit of extensive autumn grain crop cultivation. Some of them also sent agricultural experts to communes and brigades to teach the advanced cultivation techniques to enhance the level of scientific farming. This year Hebei Province conducted technical training in corn cultivation among its approximately 700,000 agrotechnicians.

SHANDONG

BRIEFS

WHEAT HARVEST--Rural areas in Jinan Municipality, Shandong, are busy harvesting wheat. Some 3,000 people and 200 vehicles from provincial and Jinan Municipal departments, from the leading organ of the Jinan PLA units and the provincial military district are sent every day to communes to support the wheat harvest. Leading persons of the province, the Jinan PLA units and Jinan Municipality, including Zhao Lin, Qin Hezhen, Li Zhen, Xiong Zuofang, (Zhao Bingan), Chen Renhong, (Li Cuiying), Xu Hongyun, (Zhang Jun) and Yuanrong, participated in harvesting. Responsible persons of the provincial CCP committee also held discussions with responsible persons of counties, communes and brigades and urged them to get the harvest in and thresh quickly to avoid wheat from mildewing and rotting. [SK180854 Jinan Shandong Provincial Service in Mandarin 2300 GMT 13 Jun 80]

SHANDONG RAIN--Rain fell in most areas of Shandong Province on 6 June and the morning of 7 June, except for the central area of the peninsula. The precipitation in Chawei, Linyi, Dezhou, Taian, Jinan and Zibo prefectures and municipalities ranged from 25 to 90 millimeters. [SK160036 Jinan Shandong Provincial Service in Mandarin 2300 GMT 7 Jun 80]

SHANDONG DIVERSIFIES ECONOMY--Shandong Province has increased its revenue by adjusting the internal structure of agriculture to develop diversified production. During the first quarter of 1980, the amount of revenue from such diversified production reached 1.96 billion yuan. This was a 20.8 percent increase over the corresponding 1979 period. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 10 Jun 80 SK]

CSO: 4007

SHANGHAI

BRIEFS

SHANGHAI FIGHTS FOR HARVESTS--Incessant rains which started on 10 June have brought 40 millimeters of rainfall to Shanghai, and are not expected to stop for another few days. This poses a serious problem for the 300,000 mu of wheat and more than 100,000 mu of rape which have not been reaped or threshed. The municipal agricultural commission issued an urgent circular today calling on leader to take preventive measures against any loss of the crops to the elements. [Shanghai City Service in Mandarin 1130 GMT 12 Jun 80 OW]

CSO: 4007

'SICHUAN RIBAO' COMMENTARY DISCUSSES EXPANDING PORK SALES

HK040720 Sichuan SICHUAN RIBAO in Chinese 19 May 80 p 1

[Short commentary: "Firmly Base Our Work on Our Locality and Actively Expand Pork Sales"]

[Text] As a result of conscientiously implementing the two central documents on developing agriculture and the decision of the provincial CCP Committee on developing animal husbandry since last year, our province has made substantial progress in the production of live pigs and greatly increased the rate of manure production and the rate of marketable pigs. This is a good thing for developing agricultural production and for improving market supplies. However, a new problem of attaching greater importance to the purchase rather than to the sale of live pigs has now surfaced. How to properly solve this problem has an important bearing on agricultural production and on the people's livelihood. To protect the peasants' enthusiasm in raising pigs and promote the continuous development of live pig production, it is necessary to reiterate the state policies governing the purchase of pigs. Departments of commerce in all localities must uphold the purchasing policies. They must not force down or raise the grade and price of pigs, still less stop or refuse acceptance at will. At the same time, they must repeatedly publicize to the peasants that they must firmly believe in the party's policies and must not give credence to rumors. They must maintain an equilibrium between purchase and sales and must not give prominence to the selling of pigs alone. The pigs will die if they are rushed to the market all at the same time.

The correct way to solve the problem of attaching greater attention to the purchase than to the sale of pigs is to actively expand pork sales. In expanding pork sales, should we aim at expanding sales to the higher levels or put the stress on expanding local sales, particularly sales in the countryside? It is necessary to unify understanding on this problem. Several years ago, our province had a short supply of pork. Proceeding from the overall situation, many producing areas cut down local sales to insure sales to the higher levels. This played an important part in insuring the basic livelihood needs of the urban inhabitants and was a contribution toward socialist construction. At present, we have unlimited supplies of pork in

the cities and the countryside. If we ship all pigs produced in excess of quota to a small number of cities and these cities cannot consume them all at once, we will inevitably cause the death of pigs and inflict losses on the state. This in turn will hit production and dampen the peasants' enthusiasm for raising pigs. Therefore, both the idea and practice of trying to solve the contradiction of attaching greater attention to the purchase than to the sale of pork by expanding sales to the higher levels are wrong. The positive and reliable method is to proceed from the overall point of view, base our work on our locality and actively expand rural sales.

The countryside has a vast market for pork sales. To insure that the peasants can eat more meat, the party and government have adopted a number of economic measures encouraging the peasants to slaughter and eat their own livestock, such as abolishing the plicy of "one knife," allowing the production teams to slaughter the livestock and share the meat tax-free and supporting the peasants in slaughtering their own livestock. Practice in many localities has shown that the peasants prefer slaughtering their pigs for their own consumption without going through the commercial channels, selling their pigs to the state and then buying the meat because they can really benefit from this practice. As long as the food dealers make an earnest effort to shift the focus of pork sales to the countryside, it is entirely possible to sell more pork. This is an important way to solve the contradiction of attaching greater attention to the purchase than to the sale of pork. Of course, while stressing the need to expand rural sales, we must not slacken the supplies of pork to the cities. Urban meat retailers must proceed from improving the quality and attitude of their service and bettering the means of supplies to satisfy the masses' needs and actively expand pork sales.

The party committees at all levels and the government must strengthen leadership over the purchase and sale of pork. At present, it is necessary to strengthen ideological and political work, organize the forces of all quarters and actively do a good job of expanding pork sales. Most important of all, it is necessary to grasp the implementation of the work of promoting rural sales and encouraging the production teams to slaughter livestock for their own consumption. Units which have grasped the work well and achieved notable results should be promptly commended and awarded; units which have caused a shortage of pork supplies and the death of pigs due to their slow and passive work should be punished.

BRIEFS

SICHUAN EXPANDS SILK INDUSTRY--Chengdu, 2 Jun--Sichuan Province, one of China's leading silk cocoon producers, is working hard to bring about a fast expansion of its silk industry. Recently, the province put into operation 4 new reeling mills and introduced an additional number of silk looms able to produce a total of 2.5 million meters of silk fabric a year. Approximately 50 mills in the silk industry are being renovated or expanded. The work is scheduled to complete mainly within this year, for the purpose of achieving an annual target of processing 15,000 tons of silkworm cocoons, dyeing 4 million meters of silkcloth and producing 1,500 tons of raw silk and 5 million meters of silk piecegoods. Last year, Sichuan produced 20,000 tons of silkworm cocoons, more than in 1978, a 40 percent increase. Only 70 percent of the silkworm cocoons and 10 percent of the raw silk it produced could be processed by itself. The efforts being made to expand silk industry represents Sichuan's determination to carry to the letter the newly-adopted policy of encouraging every locality and even every production unit to undertake the kind of production best suited to its own resources. [OW030403 Beijing XINHUA in English 0231 GMT 2 Jun 80]

MEDICINAL HERB PRODUCTION INCREASED--Chengdu, 9 Jun (XINHUA)--China's biggest herb-growing province Sichuan, in southwest China, has more than 20,000 hectares planted to Chinese medicinal herbs. The total value of purchases in 1979 was 2.5 times that in 1965. The province produces 3,000 varieties of medicinal material, a great proportion of which are medicinal herbs, including dozens of varieties introduced from other provinces. In addition, there are over 30 farms that raise deer to collect the antlers. Experiments have been made by four musk-raising farms to obtain musk without killing the animal. Sichuan is noted for producing tuckahoe, fritillary bulb, caterpillar fungus, tuber of elevated gastrodia, Chinese goldthread, ligusticum walliichii and dwarf lilyturf, important ingredients in traditional Chinese medicine. Over 20 new medicines, including those for treating leukemia, coronary heart disease and diabetes, have been successfully produced in the province. [Text] [OW090824 Beijing XINHUA in English 0613 GMT 9 Jun 80]

COLD STORAGE FACILITIES--Chengdu, 3 Jun--Sichuan, China's leading pig-raising province, has built 31 commercial freezing plants to store pork. The province is constructing a further 62 plants and planning to build 14 more. All

the plants are capable of storing about 500 tons of meat each. By the end of next year over 80 percent of the 130 pig-raising counties in Sichuan will have their own cold stores. The province is estimated to have some 45 million pigs. [Text] [OW030403 Beijing XINHUA in English 0218 GMT 3 Jun 80]

CSO: 4020

XINJIANG

BRIEFS

XINJIANG ANIMAL HUSBANDRY--XINJIANG RIBAO on 11 June frontpaged the Xinjiang Regional People's Government 7 June circular on summer animal husbandry. Six measures for insuring success in summer animal husbandry were laid down in the circular; 1) Improve the method for herding cattle and sheep and insure the fulfillment of the task of delivering animals to the state in summer; 2) Do a good job in breeding drought animals; 3) Do a good job of mowing and planting forage grass; 4) Strengthen grassland construction; 5) Be prepared to combat natural disasters and score good gains in animal output; 6) Strengthen party leadership over animal husbandry. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 11 Jun 80 OW]

CSO: 4007

BRIEFS

YUNNAN SUGAR PRODUCTION--Yunnan had completed its 1979-1980 sugar refining work at the beginning of May. The province produced a total of some 169,000 tons of white sugar, up some 2,700 tons compared with the previous sugar refining season. It produced some 460 tons of (ethyl alcohol) and some 9,300 tons of white wine. The total value of output reached some 170 million yuan, up 4.16 percent compared with the previous sugar refining season. [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 7 Jun 80 HK]

YUNNAN PIG BREEDING--A Yunnan radio short commentary pointed out that the development of pig breeding in 1980 has been very rapid. It said that the foodstuff departments in the province unscrupulously raised the standard of purchasing pigs and reduced the prices of purchasing pigs, thereby lowering the activism of the cadres and commune members for breeding pigs. As a result, some of the collective sties and commune members spayed the sows. The leading organs must strictly implement the policy for long term stability. Only in this way can production be developed rapidly. Despite the preliminary restoration of pig breeding, the development has been uneven. Compared with other provinces in the country, there are still greater shortcomings in Yunnan in pig breeding. The comrades from all trades and professions must value the peasants' activism and seriously do their own jobs well. [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 3 Jun 80 HK]

CSO: 4007

ZHEJIANG HOLDS TELEPHONE CONFERENCE ON GRAIN PRODUCTION

OW151217 Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 15 Jun 80

[Text] The Zhejiang Provincial People's Government held a telephone conference on the evening of 14 June, at which Yuan Fangle, member of the standing committee of the provincial CCP committee and vice governor of Zhejiang, stressed that great efforts must be made to grasp grain production because there have been frequent natural disasters in our province since the beginning of this year, adding that these natural disasters must not be treated lightly. He also said that at present all areas must strengthen their leadership over field management of early rice so that it will ripen early and give a higher yield. At the same time, all areas should do a good job in culturing late rice seedlings in order to create a good condition for wresting a bumper grain harvest for the entire year.

The conference called on leadership at all levels in the province's countryside to organize the masses to strengthen the management of the rice fields by placing emphasis on raising the ear-forming rate of rice plants. All areas should do a good job in carrying out the system of responsibility for a fixed labor quotas and establish and perfect a system of responsibility for field management so as to insure the implementation of all practical and effective production measures. At the same time, all areas should accelerate preparations for the production of late rice, strive to transplant late rice seedlings at the appropriate time, culture sufficient healthy late rice seedlings, vigorously popularize a (?scientific) method of raising rice seedlings, and race against time in order to achieve a high yield. All areas should also conscientiously grasp the production of miscellaneous autumn grain crops.

The conference held that this year's conditions for grain production are relatively complex. Therefore, all areas should give guidance to production of different kinds of crops in the light of local conditions and should be all means avoid doing things in a uniform manner. They should strive to raise the level of scientific farming and enable scientific and technical personnel to play their role.

The conference also raised requirements regarding the current production of cotton and hemp and flood prevention work.

CSO: 4007

BRIEFS

SPRING GRAIN--The masses in Zhejiang Province have reaped a bumper harvest of spring grain this year. The average per-mu yield of spring grain in the 8.9 million mu of land sown to the crop is 348 jin and the total output is more than 3.1 billion jin. Although the unit yield of spring grain is about a dozen jin less than last year, the total output is still equal to the previous high in 1979 due to the expansion of the acreage of land sown to spring grain. Of the 67 counties and municipalities in the province, more than half set all-time records in total output. The total output of spring grain in Xiaoshan, Fuyang and Shaoxing counties exceeded 10 million jin. During the growth period of spring grain this year, natural disasters of various kinds hit different localities in this province. Party committees at various levels dispatched large number of cadres to help the masses combat natural disasters and improve field management. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 13 Jun 80 OW]

BUMPER RAPESEED HARVEST--Zhejiang Province has once again reaped a bumper harvest from its 2.9 million mu of rapeseed this year. Total output of rapeseed in half of the province's counties exceeded the previous best. There are 11 counties in the province that made increases of over 10,000 dan. The province's total output was over 4.4 million dan, showing the same output level as 1979. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 13 Jun 80 OW]

CSO: 4007

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Fang Zongxi [2455 1350 3356], Biology Department, Shandong
Oceanography College (1)
- Expression of Streptomycin Resistance of pFD3 Plasmid in
Escherichia coli.....Chen Xiaokang [7115 1321 1660],
Zhang Bosheng [1728 0130 3932], Zhu Dingliang [2612 1353
5328] and Zhu Jianhua [2612 1696 5478], all of the Institute
of Genetics, Fudan University (4)
- A Study of Somatic Chromosome of the Domestic Pig (Sus
scrofa domestica).....Chen Wenyuan [1115 2429 0337], Wang
Zishu [3769 1311 3219], both of the Biology Department,
Sichuan University (6)
- Identification and Ideogram of the G-banding Chromosomes
in Chinese.....Lu Huilin [4151 1920 7207], Xie Jiahui
[1115 1367 6540] and Li Luyun [2621 7785 0061], all of the
Medical Genetics Research Group, Hunan Medical College;
Zheng Sizhong [1728 1835 0112], Tumor Research Group,
Sichuan Medical College (11)
- Cytoplasmic Inheritance of a Chlorophyll Deficient in
Cotton.....Ji Daofan [1323 6670 5672] and Xu Fuhua
[6079 7450 5478], both of the Genetic Seed Selection
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- A Preliminary Study on the Inheritance of Leaf-Shape of
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Agricultural College (20)
- Culture of Barley Mesophyll Protoplasts and the Division
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3932] and Li Xianghui [2621 0686 6540], both of the

Institute of Genetics, Chinese Academy of Sciences (25)

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Mao Shengxian [3029 4141 6343], Liu Laifu [0491 0171 4395], Huang Yuanzhang [7806 6678 2874] and Feng Xinqin [7458 2450 5367], all of the Quantitative Genetics Teaching and Research Group, Department of Biology and Department of Mathematics, Beijing Teachers' University (26)

The Inheritance of Incomplete Flexion Deformity of Fingers..... Liu Kexhou [0491 0344 3166], Zhejiang College of Medical Sciences' First Affiliated Hospital (31)

Chromosome Aberration Analysis in Cultured Lymphocytes from 183 Subjects Occupationally Exposed to Ionizing Radiation.....Shao Songsheng [6730 2646 3932], Feng Jialin [7458 0857 2651], Zou Meijun [6760 5019 0689] and Liu Hongzhen [0491 4767 3791], all of the Hematology Group, Room 3, Shanghai Municipal Industrial Health Institute (33)

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A Preliminary Study on the Heritability of Principal Characters in Panicum miliaceum L.Wei Yenghao [7614 0111 3185], Superior Agricultural Seed Farm, Jungger Banner, Nei Monggol (39)

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The Dwarf Genes and Their Genetic Effect in Maize.....
Jai Jingrui [2071 2529 3843], Beijing Agricultural University (40)

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Liu Laifu [0491 0171 4395], Quantitative Genetics Teaching and Research Group, Department of Biology and Department of Mathematics, Beijing Teachers' University (44)

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- Opto-electronic Measurement of Logs.....Zhang Zhongjun [1728 0022 6874], Shanghai Luwan District Sparetime College (90)
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Discussions on the Application of "Simulating Sample Plot Method" in Sichuan.....Qian Banlong [6929 2609 7893], First Forest Survey Brigade, Sichuan Province (135)

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CSD: 4007

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3444 0948], all of the Department of Plant Protection,
Nanjing Agriculture College; Li Guozhu [2621 0948 2691],
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2429], all of the Institute of Agriculture Research,
Xuzhou District

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Effects of Diets on the Feeding and Reproduction of
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1807 6540], Chen Eying [7115 1230 5391] and Yan Fushun
[0917 4395 7311], all of the Institute of Zoology,
Chinese Academy of Sciences

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- A New Species of the Genus Myatrichopsylla Taschenberg, 1880, with a Discussion Concerning Its Subgenera (Siphonaptera: Myatrichopsyllidae).....Li Guizhen [2621 6311 4176], Guiyang Medical College, and Xie Baoqi [6043 1405 3823], Research Institute of Epidemic Diseases of Yunnan (213)

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Wang Rui [3769 3843], all of the Department of Plant Protec-
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Institute of Trichogrammatid Wasp, Anhui Province

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CSU: 4007

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TITLE: "Studies on Disease Resistance in Rice Breeding. 1. Blast Resistance of Gang Rice and the Release of Zhong-dan Nos 1, 2 and 3"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, Feb 80 pp 1-14

EXCERPT FROM ENGLISH ABSTRACT: In order to breed blast resistant varieties with better composite characters, some exotic and indigenous varieties highly resistant to blast have been used since 1973 as donors of resistance and crossed to cultivars with early maturity, high productivity and better plant type.

[Continuation of ZHONGGUO NONGYE KEXUE No 1, Feb 80 pp 1-14]

The progress of generation for hybrid progenies was carried out twice a year. In proper crop season (from spring to autumn) they were planted both in Beijing and Chengyan of Dandong Municipality, Liaoning Province, and in the winter they were planted in Aixian County of Hainan Island, Guangdong Province. Thus, hybrid materials for screening were submitted alternately to attacks by different strains of blast fungus from distant epidemic regions. Besides, additional artificial inoculation by using different blast strains to induct the outbreak of the disease was also practiced. It was proposed that through this way of screening, the efficiency of selecting hybrid lines with broad spectrum resistance was promoted.

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ORG: All of the Shanxi Academy of Agricultural Sciences

TITLE: "Studies on Stripe Rust Resistance of the Cultivar Resources of Wheat"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 15-22

EXCERPT FROM ENGLISH ABSTRACT: Experiments on stripe rust resistance were conducted by means of race inoculation on mature plants of 2866 samples from Chinese farms and improved varieties and varieties introduced from abroad.

The results showed that the stripe rust resistance of the varieties, whether they were farm and improved ones or those from abroad, would vary with the rust races and with the time of their occurrence. Thus, the authors are of the opinion that there are no such varieties as absolute infection, absolute medium resistance or absolute immunity. Generally, in the same variety, manifestation of infection, immunity and medium resistance might be observed in different races.

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TITLE: "Breeding Maize Hybrids for High Lysine Content"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 23-29

EXCERPT FROM ENGLISH ABSTRACT: Opaque-2 kernels on the segregating ears of 11 first self backcross progenies differed significantly from their normal sibs in several kernel characteristics. On the average, the opaque types were 6.1% lower in test weight (with a range of 0.6% to 11.8%) and 15% less in kernel density (ranging from 7% to 21.5%) than their respective normals. However, the opaque kernels were generally about 10% larger in size, except for only 1 out of 11 inbreds under conversion. These findings did help us to focus our attention on selection for higher test weight rather than for the size of the kernels.

None of the 15 opaque-2 single cross hybrids under yield trial test had surpassed the normal checks. The topmost yielding o_2 hybrid, Hu 11³(o_2) @ $2 \times 75-308/o_2$, giving 7341 kg of grain per hectare, was still 5.9% to 10.0% less than the best normal hybrids. But, all the tested o_2 hybrids had their lysine content on the basis of whole kernel almost double the normal. Measured in total amount of lysine in a unit area of land, another o_2 hybrid $75-308/o_2 \times 52-6/o_2$ produced 35.4 kg of lysine per hectare which was also two times greater than normal, even though the former gave only 80.7% grain yield of the latter. Among the converted o_2 inbreds so far tested, the lysine content seemed to be positively correlated with their protein level. This can be used as a supplementary criterion for selection.

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TITLE: *The Cultural Principle and Practices in High-Yielding Wheat in the South of the Huai River in Jiangsu Province**

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, Feb 80 pp 30-38

TEXT OF ENGLISH ABSTRACT: Under the conditions of plentiful rainfall and serious diseases in the south of the Huai River in Jiangsu Province, wheat often fails to get high yields there. To achieve higher yield, physiological research was conducted in Nanjing during 1975-1979. The results are summarized as follows:

1. The average yield per mu of the high-yielding plots reached as high as 543.9 kg, 550.6 kg, 518.7 kg and 568.9 kg in 1978 and 1979. Such results showed that the structure of dynamic colony with an average yield of 500-570 kg per mu in "Nanjing No 3" and "7317" varieties required a density of 100-150 thousand seedlings per mu, with up to 800-900 thousand culms, 350-400 thousand ears, over 40 kernels per head and a weight of 36-40 grams per 1000 grains. Such a sowing density and

structure would ensure a normal growth and development of both individual plants and the colony.

2. To control colony structure, a proper fertilization was necessary in order to get high yield. A moderate amount of basic and tiller's fertilizer would benefit the growth of seedlings, and favor the formation of strong tillers. A proper amount of fertilizer applied at the knotting stage would favor the formation of grains, the "heading rate" of tiller and the increasing of the number of spikelets.

3. Experiments also showed that the maximum leaf area index of high yielding wheat at 6-7 would significantly increase the rate of photosynthesis. The coefficient of photosynthesis rate from booting to filling stages would strongly influence the yield of wheat. The higher yield of 500-570 kg per mu required a maximum biological yield of 1300-1400 kg. Its economic coefficient was 0.44-0.55 and the grain/straw ratio was about 1:1 - 1:1.2.

* Also helping with portions of the study were: XU Shuren [6079 2885 0086], QIAN Qiugen [6929 4428 2704], ZHANG Jinfa [1728 6651 4099], CHEN Wunan [7115 0063 3948], YE Changlin [5509 7022 2651] and HUANG Yulun [7806 3768 7762].

AUTHOR: HU Yiduan [5170 0076 4551]
WU Yunkang [0702 0061 1660]

ORG: HU of the Nanjing Agricultural College; WU of the Jiangsu Agricultural College

TITLE: "Development of the Bud of Gossypium and Its Evolution"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, Feb 80 pp 39-45

EXCERPT FROM ENGLISH ABSTRACT: Because there exists both in our country and abroad a different understanding about the number and property of axillary buds on each node of the main stem of a cotton plant, we undertook field investigation and anatomical studies for four successive years, and primary results are obtained as follows:

1. Besides the two types of leaves (cotyledons and true leaves), there are indeed prophylls in cotton leaves.
2. There is only one bud being developed in the axil of each leaf of Gossypium, and in the same axil the rest of the axillary buds are developed orderly.
3. Vegetative limbs and fruiting branches are formed by the development of axillary buds. Leaf buds and mixed buds are homologous organs, and their nature would be changed by external factors.

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TITLE: "The Distribution and Ecologic Factors of Apples in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXIE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 46-51

TEXT OF ENGLISH ABSTRACT: This article classified the cultivation of apples into seven regions according to the natural distribution. It also discussed the relationship between the growth, yield, quality of apples and the ecologic factors, such as temperature, light, rainfall and soils.

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TITLE: "A Study on the Characteristics of Exposed Subsoil and Increment of Its
Fertility in Mellow Process in Loess Area"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 52-60

EXCERPT FROM ENGLISH ABSTRACT: The present paper deals with the characteristics of
exposed subsoil in the loess area in the northwestern part of China.

It indicates that loess is a special parent material, which possessed a thick soil
horizon and a higher content of Ca, P and K. However the availability of phosphorus
is lower, organic matter and nitrogen are very poor, and these properties are the
main limiting factors of crop production in the present area.

[Continuation of ZHONGGUO NONGYE KEXUE No 1, Feb 80 pp 52-60]

Experiments demonstrated that under the influence of applications of organic fertilizer in great amounts as a principal amendment for some years, a series of fertility properties of exposed subsoil would be transformed for the benefit of agriculture.

* The following aided in portions of the study: PENG Xianglin [1756 4382 2651], TANG Senben [0781 2773 2609], YANG Pengnian [2799 1756 1628], WANG Jingqin [3076 7234 3830], ZHANG Zhongxian [1728 6945 0341], SHUAI Jiafu [1596 1367 4395].

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TITLE: "A Study on Nitrogen and Phosphorus Nutrition of Soybeans"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 61-69

EXCERPT FROM ENGLISH ABSTRACT: Results of the experiment showed that fertilization increased soybean yields.

- a) Soybean's response to $\text{NH}_4\text{-N}$ was better than its response to $\text{NO}_3\text{-N}$.
- b) On soils of higher fertility levels, the effect of nitrogen application was small while phosphorus application gave good results.
- c) Under conditions of lower fertility levels, the response to N application was better than to P application.
- d) Soybean yields varied with the different fertility levels of soils. Usually higher soybean yields were correlated with higher soil fertility.

Thus, one may come to the conclusion that kinds and quantities of fertilizers required by the soybean under various fertility levels in different regions varied widely.

e) Higher soybean yields could be obtained only with optimum development of vegetative growth and high accumulation of dry matter.

f) Plant height and stem diameter of soybeans treated with N, P applications were better than those of the control. At the same time, the root system would spread rapidly during the period between the development of branches and full bloom. The use of $(\text{NH}_4)_2\text{SO}_4$ and NH_4NO_3 decreased percentages of flowering and pod falling.

AUTHOR: ZHANG Heqin [1728 0735 3830]
LOU Hongzhang [2869 3163 4545]

ORG: Both of the Institute for Application of Atomic Energy, Chinese Academy of Agricultural Sciences

TITLE: "The Inherited Sterility of the European Corn Borer Ostrinia nubilalis (Hubner)"*

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, Feb 80 pp 70-73

TEXT OF ENGLISH ABSTRACT: Normal female corn borer moths, when mated with male moths irradiated with a partial sterilizing dose (20 to 25 KR), produced R_1 larvae with delayed development, increased mortality, distorted sex ratio, and even almost fully sterilized offspring. When the same dose was used to irradiate female moths, full or nearly full sterilization was produced.

The competitiveness of irradiated males to normal males, when released together with irradiated females, did not decrease as compared with releasing the males alone. This indicates the possibility of releasing both sexes of irradiated moths in practice.

[Continuation of ZHONGGUO NONGYE KEXUE No 1, Feb 80 pp 70-73]

The surviving R_2 , although very few in number, recovered their fertility quickly, and became almost normal in R_3 .

* The following also took part in the study: ZHOU Zongjun [0719 1350 0193], LI Yuanying [2621 0037 5391], HUANG Xinzhi [7806 2450 3112], ZHAO Caides [6392 2088 6670] and XU Danying [1776 0030 3853].

AUTHOR: CAI Xiaoming [5591 2556 2494]
SHANG Yuchang [1424 3768 2490]
YAN Junjie [7051 3182 2638]

ORG: CAI and SHANG both of the Department of Biology, Beijing University;
YAN of Hebei Forest College

TITLE: "A Preliminary Study on the Migration of the Ladybeetle, Coccinella septempunctata L., in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 74-79

EXCERPT FROM ENGLISH ABSTRACT: In recent years the ladybirds, Coccinella septempunctata, have played an important role in the biological control of cotton aphids in China. These insects, which belong to the Coccinellidae family, are extremely diverse in their habits. The majority of species, especially Coccinella septempunctata, are beneficial to crops because of their predacious habits. The present paper is the first report about the migration of this insect.

AUTHOR: TONG Kunzhou [4547 2492 0719]
BAI wenbin [4101 2429 1755]
TIAN Fenglan [3944 2800 1526]
DAI Kexian [0100 0344 3791]
ZHANG Zigang [1720 5261 0474]
CHEN Yuzhang [7115 3022 3864]
ZHOU Changjun [0719 7022 6874]
LIU Fenggang [0491 7364 1511]

ORG: None

TITLE: "Studies on a Live Attenuated Vaccine against Parathyroid Equine Abortion"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 1, Feb 80 pp 80-89

EXCERPT FROM ENGLISH ABSTRACT: The successful development of an attenuated strain of *Salmonella abortus-equi*, designated C39, for the prevention of parathyroid equine abortion is described. The attenuated was obtained by serial passages of avirulent strain of *Salmonella abortus-equi* through chickens.

The stability of attenuation was demonstrated by subjecting C39 strain to five successive passages by the intrauterine route in the fetuses of pregnant mares.

[Continuation of ZHONGGUO NONGYE KEXUE No 1, Feb 80 pp 80-89]

No change of virulence and other properties of the isolate recovered from the fetuses was discovered.

* The following helped with the study: GUO Xinmin [6753 2450 3046] and ZHAO Chenghao [6392 2052 6275].

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CSO: 4020

AUTHOR: HUANG Huiliang [7806 5478 2733]
 WANG Susheng [3769 5685 3932]
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ORG: All of the Institute of Genetics, Chinese Academy of Sciences, Beijing

TITLE: "Some Features of RNA Synthesis in Macrophages"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 1-7

TEXT OF ENGLISH ABSTRACT: Under the effect of actinomycin D in lower dosage ($\leq 1 \mu\text{g/ml}$), the inhibition pattern of RNA synthesis in rabbit peritoneal macrophages was very similar to that in rabbit renal cells. RNA synthesis in macrophages, however, was improved as the dosage of actinomycin D increased. With a dosage of $100 \mu\text{g/ml}$, the ^3H -uridine incorporation was 2-10 times higher than the control, while the RNA synthesis of rabbit renal cells was completely inhibited under the same dosage. The macrophages did not respond to the stimulation effect of actinomycin D in the presence of sucrose, and the complete inhibition of RNA synthesis was observed. On the other hand, the sensitivity of RNA polymerase in macrophages to rifampicin was at least 4-5 times higher than

[Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 1-7]

that of other non-immune cells. When the transcription in macrophages was completely inhibited by rifampicin in higher dosage ($500 \mu\text{g/ml}$), the macrophages could significantly be stimulated to increase RNA synthesis by the addition of antigen (i.e., sheep erythrocyte membranes). Since there is antigenicity in the polypeptide structure of actinomycin D itself, results obtained with two types of antibiotics are consistent. So that, by means of actinomycin D to inhibit DNA template and rifampicin to inhibit DNA-dependent RNA polymerase, the presence of RNA, synthesis other than ordinary transcription in rabbit peritoneal macrophages has been demonstrated from different angles.

AUTHOR: DAI Xiuyu [2071 4423 3768]
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TITLE: "Isolation of Tn-2 Insertion Mutants Using PolyA⁺ Mutant of *E. coli* C600"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 8-12

TEXT OF ENGLISH ABSTRACT:

Tn-2 insertion mutants were isolated by introduction of a ColEI type plasmid RSF1030 (Tn-2 carrier) into polyA⁺ mutant of *E. coli* C600 and incubated at a restrictive temperature on the medium containing ampicillin. 46 auxotrophs were detected. It was shown by agarose electrophoresis that these mutants have lost plasmid RSF1030. With the reversion to prototrophy these mutants concomitantly lost ampicillin resistance. It was detected that Tn-2 inserted in the chromosome was able to translocate into F'_{lac} episome. The results indicated that these mutants were Tn-2 insertion mutants.

AUTHOR: SU Liacyuan [3685 3598 0626]
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ZHOU Youning [0719 2589 1380]

ORG: All of the Department of Radiation Medicine, Sushou Medical College

TITLE: "The Effect of ⁶⁰Co γ-Rays on the Abilities of DNA and RNA Synthesis of Human Blood Lymphocytes"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 13-18

TEXT OF ENGLISH ABSTRACT:

Seven samples of human blood were exposed to ⁶⁰Co-rays *in vitro*, after which the blood was cultured. ³H-TdR and ¹⁴C-UR incorporation was used in this experiment in order to reflect the abilities of DNA and RNA synthesis. By employing the filter film method, the cells were harvested. The double-labelled samples were counted by the liquid scintillation counter. It was shown that the ⁶⁰Co-rays had a definite effect on DNA and RNA synthesis. With increasing radiation dosage, the radioactivity of ³H and ¹⁴C incorporation decreased exponentially. By statistical analysis,

the linear regression equations expressing the relationship between the radiation dosage and the logarithm of the radioactivity count for ^3H -TdR and ^{14}C -UR incorporations were obtained respectively. Irradiation with 10 rad induced decrease of radioactivity count of ^3H -TdR and ^{14}C -UR incorporation significantly. Apparently, synthesis of RNA rather than DNA was depressed.

AUTHOR: ZAN Ruiguang [2501 3843 0342]
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ORG: Both of the Department of Biology, Yunnan University, Kunming

TITLE: "Analysis and Comparison Between the Karyotypes of *Cyprinus Carpio* and *Carassius Auratus* As Well As *Aristichthys Nobilis* and *Hypophthalmichthys Molitrix*"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 72-76

TEXT OF ENGLISH ABSTRACT:

1. Based on the chromosome preparations made from embryo cells, a study on the karyotypes of *C. carpio*, *C. auratus*, *A. nobilis* and *H. molitrix* is carried out. The results are shown in the following.

Cyprinus carpio — $2n = 100$, comprising group A, B, and C. Group A: 11 pairs of metacentric. Group B: 15 pairs of submetacentric including 2 pairs of chromosomes with a satellite on the short arm. Group C: 24 pairs of telocentric and acrocentric including 4 pairs of chromosomes with a satellite on the short arm.

Cerassius auratus — $2n = 100$, comprising group A, B and C. Group A: 11 pairs of metacentric. Group B: 15 pairs of submetacentric. Group C: 24 pairs of telocentric and acrocentric including 3 pairs of chromosomes with a satellite on the short arm.

Aristichthys nobilis — $2n = 48$, comprising group A, B and C. Group A: 7 pairs of metacentric. Group B: 12 pairs of submetacentric. Group C: 5 pairs of acrocentric including 1 pair of chromosomes with a secondary constriction on the long arm.

Hypophthalmichthys molitrix — $2n = 46$, comprising group A, B and C. Group A: 7 pairs of metacentric. Group B: 12 pairs of submetacentric. Group C: 5 pairs of acrocentric including 2 pairs of chromosomes with a secondary constriction on the long arm.

2. It is particularly notable that in the two subspecies of *C. carpio* and *C. auratus*, a heteromorphic pair with its one member distinctly longer than others, is revealed in some metaphase cells as seen in the karyotype. This pair in other metaphase cells is represented by a homologous pair with long members. Further, it is

found that the number of the metaphase cells with the heteromorphic pair is approximately equal to that of the metaphase cells with the homologous pair. This heteromorphic pair is tentatively considered as the sex chromosomes X and Y in the two species of fish.

3. A comparison is made between the karyotypes of *C. carpio* and *C. auratus* as well as those of *A. nobilis* and *H. molitrix*. The results indicate that the karyotype of *C. carpio* is closely similar to that of *C. auratus*, while the karyotype of *A. nobilis* is similar to that of *H. molitrix*. The bearing of the results just mentioned and those described in a last paper are discussed in connection with hybrid fertility. It is proposed that the similarity between the karyotypes of the parent species is probably a main factor causing the fertility of the hybrids of *A. nobilis* \times *H. molitrix*, and the distinct difference between the karyotypes of the parent species is probably a main factor causing the sterility of the hybrids of *Ctenpharyngodon idellus* \times *Megalobrama amblycephala*, while the main factor causing the sterility of the male hybrids of *C. carpio* \times *C. auratus* appears to be due to the mechanism of sex determination by sex chromosomes X and Y, that is evolved in *C. auratus* and very probably in *C. carpio* too.

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WU Yuding [0702 0151 1353]
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ORG: ZHOU, TANG, LI, CUI and WANG Yongfa of the 204 Research Group, Institute of Genetics, Chinese Academy of Sciences, SUN and WANG Fengyun of the Capital Hospital, Chinese Academy of Medical Sciences, Beijing, and WU Naixin, WU Yuding, GAO and QIU of the International Peace Maternity and Child Health Hospital of the Welfare Institute of China, Shanghai.

TITLE: "Prenatal Diagnosis of Human Genetic Diseases I. Report on Results of Diagnosis of 100 Pregnancies"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 78-82.

(Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 78-82)

TEXT OF ENGLISH ABSTRACT:

In China, the research on prenatal diagnosis of human genetic diseases has just begun. The results of diagnosis of 100 pregnancies are presented in this report. Among these cases, 71% (71 out of 100 cases) were chromosome analysis. The remainders (29%) were neural tube defects (table 1). Four cases of neural tube defects, one case of balanced chromosomal translocation [i.e. 46, XY, t(4;5) (4pter → 4q35; 5q13 → 5qter; 5pter → 5q13; 4q35 → 4qter)], and two cases of sex-linked diseases were aborted. The prenatal diagnosis of balanced translocation and X-linked diseases were discussed.

AUTHOR: YU Dannian [7411 6130 1628]

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TITLE: "Selfing and Genetic Equilibrium in an Autotetraploid Population"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 83-92

TEXT OF ENGLISH ABSTRACT:

Three different types of segregation of autotetraploid as reviewed by Little (1945) are described here. They are:

1. Random chromosome segregation;
2. Random chromatid segregation;
3. Crossing-over between a gene locus and centromere to 50%.

According to the method suggested by Li (1948, 1955), three formulae of heterozygous proportion were obtained for three different segregate forms after selfing of duplex in autotetraploid to n generations:

[Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 83-92]

$$1. H_n = \frac{7}{5} \left(\frac{5}{6} \right)^{n+1} - \left(\frac{1}{6} \right)^{n+1},$$

$$2. H_n = \frac{98}{65} \left[\left(\frac{11}{14} \right)^{n+1} - \left(\frac{6}{49} \right)^{n+1} \right],$$

$$3. H_n = \frac{509}{429} \left(\frac{7}{9} \right)^n - \frac{32}{143} \left(\frac{1}{6} \right)^n \left(\frac{5}{6} \right)^{2n+1}.$$

They are compared with selfing in diploid.

For the first segregation form, the proportion of heterozygotes after n generations of backcross with either of the homozygous parent, will be:

$$HB_n = \left(\frac{1}{2} \right)^{n+1} - \left(\frac{1}{6} \right)^n$$

On the basis of two kinds of chromatid segregation, the equilibrium of autotetraploid has been calculated by the author. The gametic frequencies in the population are:

1. $p(4p + 1):8pq:q(4q + 1)$, and

2. $p(10p + 3):20pq:q(10q + 3)$.

And according to several frequencies of recessive genotype in population the formulae of recessive genic frequency "q" will be:

1. $q = \sqrt{m}$,

2. $q' = \frac{\sqrt{1 + 16m} - 1}{8}$,

3. $q'' = \frac{\sqrt{9 + 40m} - 3}{20}$.

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AUTHOR: FANG Zongxi [2455 1350 3556]
DAI Jixun [2071 4949 8113]

ORG: Both of the Department of Biology, Shantung College of Oceanography, Chingdao

TITLE: "The Use of Haploid Phases in the Genetic Study of *Laminaria Japonica*"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 9-25

EXCERPTS FROM ENGLISH ABSTRACT:

During the development of anther culture in some higher plants in the early seventies, a similar genetic principle used in this field of work has been applied to start a new line of research on Laminariales in our laboratory. The individual gametophytes of *L. japonica* were isolated to study parthenogenesis and apogamy to see if some new techniques could be found to study the genetics of this seaweed.

AUTHOR: YE Shaowen [0673 4801 2429]
RONG Shan [1369 3790]

ORG: Both of the Laboratory of Genetics, The Northwest Institute of Botany, Wugong

TITLE: "Studies on the VE-Type Male Sterility of Wheat"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 26-35

TEXT OF ENGLISH ABSTRACT: The new VE-type male-sterile line of wheat has been selected from the hybrid progenies of a cross between an octoploid of Triticum vulgare-Agropyron elongatum intergeneric cross and common wheat. This male-sterility is controlled by nuclear genes. Generally, in an isolated field, about three-fourths of the plants are male-sterile and one-fourth heterozygous fertile plants segregated from the progenies of the male sterile-line. Hence they possess both functions of the male-sterile line and its maintainers, so that the male-sterile plants can be produced in large amounts by natural crossing among the sister plants of the same line. Before producing hybrid wheat, the male-sterile plants must be self-pollinated in an isolated field. By doing

so, we can get a progeny with all of the plants being male-sterile. This progeny is used as the maternal parent for producing hybrid seeds. Almost all of the common wheat varieties possess good restoring ability for the VE-type male-sterile line. The yields of some hybrid wheat combinations are much better than the conventional variety used as a control in a yield test. The genetic analysis of this VE-type male-sterile line is underway.

AUTHOR: GU Mingguang [6253 2494 0342]
YUAN Benliang [5913 2609 0081] [deceased]

ORG: Institute of Genetics, Chinese Academy of Sciences, Beijing

TITLE: "Giemsa Banding in Meiotic Chromosomes of the Pollen Mother Cell of Maize (*Zea Mays*)"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 36-39

TEXT OF ENGLISH ABSTRACT:

Giemsa staining method is described for the identification of meiotic chromosomes of the pollen mother cell of maize (*Zea mays*). By Applying a Giemsa staining technique to the meiotic chromosomes of maize it is demonstrated that Giemsa bands are discernible at all the principal stages of meiosis of the PMC. It is also observed that the terminal region and subterminal region of chromosomes have prominent heterochromatic banding. In addition to that, the internal region on one of chromosomes only has very small Giemsa banding at the diakinesis stage of meiosis. The conspicuous heterochromatic bands are found on one end of the chromosomes. There exists a considerable variability in form, size, number and position of the bands in various chromosomes of maize. Only one chromosome of the total complement does not show any banding pattern.

AUTHOR: XU Yaokui [6079 3613 1145]
WU Xinkang [6762 02071660]

ORG: Both of the Jilin Agricultural College, Changchun

TITLE: "Studies on the Mutagenic Effect of Fast Neutron Irradiation on Spring Wheat"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1, Mar 80 pp 40-45

TEXT OF ENGLISH ABSTRACT: The present paper reports the experimental results of fast neutron irradiation on spring wheat. Three wheat varieties were used. Airdried seeds of each of them were subjected to three dosages of irradiation. Observations on the effects were made during 1975-1977.

2.1×10^{11} n/cm² was found to be the proper dosage. Among the three varieties "Kefeng No. 1" was found to be the most tolerant and "Tanori" the most sensitive to higher dosages.

The mutagenic effects were of great diversity. Variations in plant stature, growth period, fertility, spike and awn characters, color of hull and grain,

[Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 40-45]

etc., were observed in the M generation. Many characteristics appeared to be inheritable in the later generations. Some desirable mutants were selected for further study.

AUTHOR: CHEN Ying [7115 5391]
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TIAN Wenzhong [3944 2429 1813]
ZUO Qiuxian [1563 4428 0103]
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LU Deyang [0712 1795 7122]
ZHANG Guihua [1728 2710 5478]

ORG: All of the Institute of Genetics, Chinese Academy of Sciences,
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TITLE: "Studies on Pollen Culture In Vitro and Induction of Plantlets in *Oryza Sativa* Subsp. *Geng*"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1,
Mar 80 pp 46-53

TEXT OF ENGLISH ABSTRACT: The panicles of rice with the microspore at the late uninucleated state were collected and pretreated at 8-10°C for 10 days. The isolated pollen grains were prepared as follows: (1) After preculturing the anthers on agar or a liquid medium for 2-7 days, the pollen grains were separated by the crush methods (Nitsch, 1974) or by magnetic stirring. The

[Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 46-53]

debris was removed, and prepared at a concentration of 2.5×10^5 microspores per ml. (2) By inoculating anthers on liquid medium, they would float on the surface of the medium and the free pollen grains would continuously liberate into the medium from the anthers periodically. On transferring the anthers to a fresh medium, the free pollen grains shed from the anthers at times were collected. These isolated microspores were incubated in a shallow layer of liquid medium. The media used for culture were Miller or N_6 basal medium supplemented with serine, 100 mg; glutamine, 800 mg and m-inositol 5 g per litre.

The androgenesis of the cultured microspores in vitro was observed. The isolated pollen grains precultured for more than three days could divide continuously and develop into multicellular masses and calli, while those non-precultured did not undergo the first mitosis. More calli were produced from the cultures prepared by the second mitosis. When these cultures were transferred to differentiation medium, some of them differentiated intact plants.

When the culture medium was free from the three organic additives or one of them as mentioned above, further growth of the cultures was suppressed. It is interesting to note that when the medium contained metabolites of anther tissues, the growth of cultures could be significantly enhanced.

AUTHOR: GUAN Chunyun [1351 2504 0061]
WANG GUOHUAI [3769 0948 2849]
ZHAO Juntian [6392 0971 3944]

ORG: All of the Department of Agronomy Hunan Agricultural College,
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TITLE: "The Preliminary Investigation on Heterosis and Early Prediction
in Heterosis Selection of Hybrids of Rapeseed (*Brassica Napus*)"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1,
Mar 80 pp 55-63

TEXT OF ENGLISH ABSTRACT:

Experiments were carried out to study the heterosis and early prediction in heterosis selection of eight intervarietal hybrids and eleven hybrids of male-sterile lines \times fertility-restorers of rapeseed (*B. napus*). The main results are shown in the following:

1. Heterosis in the number of primary branch, number of siliqua per plant and seed yield of hybrids of rapeseed (*B. napus*) was significant.

[Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 55-63]

2. Stomatal number per square millimetre on the hybrid siliqua epidermis was more than that on the parents. In the flowering stage leaf-area index, chlorophyll content, photosynthetic rate, exuding water, rate, etc. of the hybrid were higher than that of the parents.

3. Reliability ratio of the prediction in heterosis selection by the yeast method was 66.7%.

AUTHOR: WANG Pei [3769 1014]
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ORG: Both of the Institute of Crop Science of Hopei Province,
Shijiazhuang

TITLE: "Effects of Growth Conditions of Anther-Donor Plants on the Production of Pollen Plants in Wheat Anther Culture"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese Vol 7, No 1,
Mar 80 pp 64-71

TEXT OF ENGLISH ABSTRACT:

Anther cultures of winter wheat (*Triticum aestivum*) with anthers taken from F₁ hybrid plants grown under three different conditions were compared, and significant and reproducible results were obtained. The three growth conditions were: (1) Sowing seed in autumn in the field, transferring the seedlings to greenhouse in winter, and harvesting anthers for culture in late February and early March the next year; (2) Normal autumn-sowing in the field and harvesting anthers for culture in late April the next year; (3) Sowing germinated and vernalized winter wheat seed

[Continuation of YICHUAN XUEBAO Vol 7, No 1, Mar 80 pp 64-71]

in spring in the field just before the soil ice began to melt and harvesting anthers for culture in the middle of May. It was found that the induction frequencies of pollen callus and pollen plants of the anther culture of "spring-sown" winter wheat were about twice as high as those of the normally autumn-sown winter wheat, about three times as high as those of the greenhouse-grown winter wheat. In 1978, F₁ anthers of 28 crosses of "spring-sown" winter wheat were cultured, in which 100% crosses gave rise to pollen callus, and 92.3% crosses gave rise to green pollen plants. The cause of the high induction frequency of the "spring-sown" winter wheat is analyzed and discussed.

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